AESTHETICS/LIGHT AND GLARE

This alternative would result in similar aesthetics/light and glare impacts compared to those associated with the proposed project. Aesthetics/light and glare impacts resulting from the proposed project would also occur with relocation of the park site. Overall impacts associated with aesthetics/light and glare would be similar to the proposed project.

TRANSPORTATION/CIRCULATION

According to Darnell & Associates, Inc. (project traffic engineers), Bolsa Chica Street at this proposed intersection will be on a horizontal and vertical curve, and the southerly extension will be on a vertical curve. This would be a very undesirable intersection for the average driver based on prevailing speeds on Bolsa Chica Street.

Depending on the vertical and horizontal alignment of Bolsa Chica Street, there will most likely be a sight distance problem for southbound to eastbound left turns and for westbound vehicles seeing southbound and northbound vehicles at prevailing speeds on Bolsa Chica Street. Additionally, in order to construct this alignment, a fill slope of almost 30 feet would be needed. Impacts related to transportation/circulation would be greater than the proposed project's resulting impacts.

AIR QUALITY

This alternative would result in greater short-term air quality impacts than the proposed project. Impacts would result from short-term construction due to the addition of truck and construction vehicle traffic to construct the roadway extension. This alternative would result in long-term mobile source emissions similar to the proposed project. The roadway extension would not affect the number of residential units to be built; therefore, traffic volumes resulting in mobile source emissions would be similar.

NOISE

This alternative would result in greater short-term impacts than the proposed project during construction activities. The alternative would require construction of the roadway extension in addition to construction of the proposed homes. Noise impacts could possibly be greater due to the fact that the roadway connection could cause more vehicles to travel through the project site.

EARTH CONDITIONS

This alternative would result in impacts associated with expansive soils, ground shaking and other geotechnical constraints, similar to the proposed project. Additionally, constructing the southerly roadway connection to Bolsa Chica Street as proposed with this alternative would result in impacts not experienced by the proposed project. This alternative would require an embankment up to 35 feet in height. The proposed alignment would also cross an existing gas line. Significant settlements, likely exceeding the structural capacity of the gas line, would be

induced as a result of the embankment construction. Additionally, the slope would be considered susceptible to seismically induced deformation (lateral spreading) without extensive remediation. Impacts related to earth conditions would be greater than the proposed project.

DRAINAGE/HYDROLOGY

This alternative would result in surface water runoff due to the covering of surface soils with impermeable structures and surfaces related to the homes and the roadway extension. This alternative would result in potential impacts related to flooding, greater than that of the proposed project. This alternative would result in an increase in water runoff that is greater than that of the proposed project. The roadway extension would increase the amount of impervious surfaces related to the proposed project. Impacts related to drainage/hydrology would be greater than the proposed project.

BIOLOGICAL RESOURCES

This alternative would result in greater impacts to biological resources. The proposed southerly connection to Bolsa Chica Street would impact existing pickleweed located off-site.

ARCHAEOLOGICAL RESOURCES

This alternative would result in potential impacts to archaeological resources, similar to that of the proposed project. Construction of the roadway extension would still be required to take into consideration significant archaeological resources located on site, similar to the proposed project.

PUBLIC SERVICES AND UTILITIES

This alternative would result in impacts to public services and utilities, similar to those of the proposed project. Construction of the roadway extension would not increase, decrease, or eliminate impacts related to public services and utilities.

Status of Alternative

This alternative is not technically feasible. According to Darnell & Associates, Inc., this would be a very undesirable intersection for the average driver based on prevailing speeds on Bolsa Chica Street. This alternative would result in a sight distance problem for southbound to eastbound left turns and for westbound vehicles seeing southbound and northbound vehicles at prevailing speeds on Bolsa Chica Street. It does not meet the project applicant's objectives. This alternative does not reduce impacts of the proposed project and creates new impacts not caused by the proposed project. Therefore, it is environmentally inferior to the proposed project. It is removed from further consideration.

~~2.2~~ 6.7 ALTERNATIVE 6 - REDUCED DENSITY ALTERNATIVE (9-LOT COUNTY) WITH EXISTING BASE FLOOD ELEVATION (JUNE 2000 FEMA) - 10.9 FEET AT NORTHEAST CORNER

Reduced Density Alternative Concept Applicable to Alternatives 6, 7, 8, and 9

The Reduced Density Alternative Concept was initially prepared in response to comments received from the California Coastal Commission (CCC), the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (DFG), Bolsa Chica Land Trust (BCLT), and others during the 60-day public review period of the Draft EIR for the Parkside Estates project. In order to adequately respond to these comments, the City of Huntington Beach directed the applicant to prepare an alternative plan to be considered as part of the EIR. The above-referenced comments requested several issues be considered as part of an alternative plan.

The following specific issues raised within the comment letters (referenced at the end of each issue) resulted in the preparation of this alternative plan:

- Avoid eucalyptus trees on the County portion of the site, which are part of a larger Environmentally Sensitive Habitat Area (ESHA) previously designated by Fish and Game (BCLT)
- Design project to avoid impacts to remnant wetland (i.e., remnant pickleweed) area located in the County portion of the project (DFG)
- Explore a project alternative which avoids impacts to the 0.4-acre EPA delineated wetland area in the County rather than simply proposing that adverse impacts be mitigated (CCC)
- Consider alternative uses (i.e., open space/scenic greenway) for the 4.5-acre County parcel that would avoid houses jutting further into the lowland area currently being planned for restoration and long-term conservation of fish and wildlife (USFWS)

Additionally, subsequent to the end of the 60-day public review period of the Draft EIR, the Court of Appeal rendered a decision on the appeal of the trial court's decisions pertaining to the Local Coastal Program for the Bolsa Chica project. As part of the decision, which occurred on April 16, 1999, the Court of Appeal overturned the trial court's decision with respect to relocating the bird habitat proposed as part of the Bolsa Chica project. According to the Court of Appeal, the Coastal Act does not permit destruction of an environmentally sensitive habitat area (ESHA) simply because the destruction is mitigated off-site. The proposed original plan and alternatives accommodate this recent court decision.

The 4.5-acre County parcel contains 0.13 acre (west of the above ground gas line) of the DFG designated ESHA (please refer to Exhibits 47a, 47b and 63). The Parkside Estates original project proposes development of 27 single-family homes within the County portion of the project site, which would require the removal of eucalyptus trees (refer to Section 3.0). Although the trees which, would have been removed were not part of the larger designated eucalyptus ESHA, impacts associated with other tree removal were identified in the Draft EIR. In an effort to reduce the impact related to removal of these trees to a level less than significant, the Draft EIR proposed mitigation requiring replacement of the trees at a 2:1 ratio. In response to comments on the Draft EIR and the court decision regarding the preservation of eucalyptus ESHA, an alternative plan has been prepared resulting in complete avoidance of all County eucalyptus trees including the 0.13 acre onsite ESHA. Implementation of this Reduced Density alternative plan would result in the development of 9 lots versus 27 lots on the County parcel and ensure that impacts related to the removal of onsite trees remain less than significant.

Actions by FEMA and Coastal Commission Applicable to Alternatives 6, 7, 8, and 9

In response to the release of a revised Flood Insurance Rate Map (FIRM), issued by FEMA, on June 14, 2000; Shea Homes' submittal of a Conditional Letter of Map Revision (CLOMR) application on February 2001; and the November 2000 Coastal Commission decision, four new alternatives to Tentative Tract Maps 15377 and 15419 have been developed, which present 1) variations in site base floodplain elevations (i.e., 10.9 feet (NAVD 88) versus 4.5 feet (NAVD 88))[1] and 2) different development assumptions for the 4.5-acre County parcel (i.e., 9 lots versus 0-lot). The following discussion provides more detail on the new elevations established for the four alternatives.

The original pad and finished floor elevations shown on Tentative Tract maps 15377 and 15419 for Parkside Estates, which were demonstrated and referenced within the Draft EIR, were based upon the City of Huntington Beach interpretation of the January 1997 FIRM, which designated the project site as an A99 zone. Because the A99 zone is considered an "interim" zone (pending completion of the Santa Ana River project in 1999), the local authority (i.e., City) has the discretion to dictate minimum pad elevations for a project. At the time the Draft EIR was prepared, the City of Huntington Beach required minimum pad elevations for Tentative Tracts 15377 and 15419 to be 1.00 foot (NAVD 88). The Tentative Tract Map pad elevations shown in the Draft EIR ranged from approximately 1.0 foot (NAVD 88) along the northern property boundary up to 9.5 feet (NAVD 88) adjacent to the East Garden Grove Wintersburg Flood Control Channel (CO5).

Subsequent to completion of the Santa Ana River flood control improvements, FEMA required the Orange County Flood Control District to conduct a new analysis of the CO5 watershed. The Orange County Flood Control District commissioned WEST Consultants, a private consulting civil engineering firm, to begin a detailed flood insurance study of the CO5 Channel. The results of that study had not been released before the DEIR 97-2 was circulated for comment in April 1998.

WEST Consultants did not produce a detailed flood insurance study and was directed by the County to provide an "approximate" watershed analysis of the CO5 to the Orange County Flood Control District, for submission to FEMA. Subsequently, new base flood elevation contours were "informally" produced by the County of Orange from the WEST study in June 2000. These new informal, non-published or "unofficial" base flood elevation contours were made available to the City of Huntington Beach on an information basis to establish minimum pad elevations for new developments within the watershed study area. The City's interpretation of the base flood contours requires pad elevations of Tentative Tracts 15377 and 15419 to range between 10.9 feet (NAVD 88) and 11.4 feet (NAVD 88 datum) - considerably higher than any prior base flood elevation previously predicted for the subject property.

Following their review of the approximate watershed analysis completed by WEST, FEMA issued a Letter of Map Revision (LOMR) which became effective June 14, 2000 along with a

[1] All elevations in the focused detailed Flood Insurance Study prepared by Exponent for Shea Homes are based on mean sea level (National Geodetic Vertical Datum of 1929 (NGVD 29)). The Shea Homes development elevations, in separate documents, are based on mean sea level, (North American Vertical Datum of 1988 (NAVD 88)). NGVD 29 elevations may be converted to NAVD 88 elevations by adding 2.44 feet to NGVD 29 elevations.

revised FIRM and established new floodplain development criteria for the areas adjacent to or near the CO5. A copy of this letter is contained in Appendix A of this document.

The project applicant, Shea Homes has revised their original development plans (Tentative Tract Maps 15377 and 15419) to be in compliance with the non-published base flood contours (i.e., June 2000 FEMA). (Refer to the following Alternatives 6 and 8).

Per FEMA regulations, only detailed flood insurance studies (FISs) can have Base Flood Elevations (BFEs) that can be used by a community to comply with FEMA regulations. FISs that produced Flood Insurance Rate Maps (FIRMs) that predated the June 2000 FIRM are examples of detailed FISs. The February 2001 Focused Detailed Flood Insurance Study that has been submitted to FEMA by Shea Homes is another example of an FIS that may produce a BFE.

Approximate Flood Insurance Studies cannot have BFEs. The June 2000 approximate FIS is an example.

In certain places throughout this document, reference is made to "informal," "non-published" or "unofficial" Base Flood Elevations which were interpolated by the County of Orange from the WEST Consultants approximate study. These elevations are not BFEs as defined by FEMA. FEMA 44 CFR 60.3 requires that Base Flood Elevation data be provided by certain project proponents in areas that do not have BFEs. The customary means of providing BFEs is the detailed FIS.

In conformance with FEMA and City requirements, and as recommended by the WEST study, Shea Homes commissioned additional engineering firms to conduct a "new focused detailed flood insurance study" of the CO5 and determined from the best available information the base flood elevations for the Parkside Estates Project under FEMA policy. The Shea Homes analysis demonstrates the minimum base flood elevation to be at 4.5 feet (NAVD 88 datum). The minimum pad elevations are required to be one foot above the minimum base flood elevation by the City or 5.5 feet (NAVD 88 datum). "Alternative" Tentative Tract maps 15377 and 15419 have been produced based upon that conclusion. (Refer to the following Alternatives 7 and 9).

In February 2001, Shea Homes submitted a ***request for a*** Conditional Letter of Map Revision (CLOMR) application along with the analysis, to FEMA for approval.

FEMA concluded in a CLOMR to the City of Huntington Beach dated June 6, 2002, that "as a result of the more detailed topographic information, the proposed project, and the failure of uncertified levees, the base flood WSEL will decrease compared to the effective base flood WSEL along the northern overbank of East Garden Grove-Wintersburg Channel. The base flood WSEL, within the Shea Homes property will be 2.2 feet, referenced to the National Geodetic Vertical Datum (NGVD) of 1929."

The conversion of NGVD 29 Datum to NAVD 88 Datum is calculated by adding 2.4 feet. Therefore, the approved CLOMR WSEL or Base Flood Elevation (BFE) for the project site as adjusted to NAVD88 datum is 4.6 feet. Alternatives #7 and #9 listed below have a BFE of 4.5 feet. These two alternatives and the environmental analysis of these alternatives are consistent with the June 6, 2002 approved FEMA CLOMR for the project site.

Summary

The four proposed alternatives reflect two different reduced density concepts in conjunction with two floodplain elevation alternatives:

- Alternative 6 - Reduced Density Alternative (9-lot County) with Existing Base Flood Elevation (June 2000 FEMA) - 10.9 feet at northeast corner
- Alternative 7 - Reduced Density Alternative (9-lot County) with Projected Base Flood Elevation (updated FEMA with LOMR) - 4.5 feet
- Alternative 8 - Reduced Density Alternative (0-lot County) with Existing Base Flood Elevation (June 2000 FEMA) - 10.9 feet at northeast corner
- Alternative 9 - Reduced Density Alternative (0-lot County) with Projected Base Flood Elevation (updated FEMA with LOMR) - 4.5 feet

Description of Alternative

This alternative plan avoids all County eucalyptus trees (including the 0.13-acre eucalyptus ESHA located in the County portion of the project site) by reducing the number of dwelling units located in the County parcel from 27 lots to 9 lots. Under this alternative, the number of units in the City parcel have also been reduced by 17 units to accommodate open space/park like buffers, which assist in off-setting impacts of the revised base floodplain elevation for the site. As shown in Exhibit 48, the non-published Approximate Base Flood Elevations (BFE) map derived from the WEST study, this alternative reflects the base floodplain elevation (BFE) of 10.9 feet at the northeast corner of the site. Considering the above discussed factors, this alternative results in a total project dwelling unit reduction of ~~37~~ ***35***, from ~~208~~ ***206*** to 171 dwelling units (please refer to Exhibits 49, the Conceptual Land Use Plan 171 lots; Exhibits 50, ***50a,*** and 51, the Tentative Tract Maps for City and County; and Exhibit 52, the Conceptual Landscape Plan).
The Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA) results in the following changes to the entire project. First, the alternative plan will have a total of 77 estate lots with a minimum size of 6,000 square feet and average size of 7,359 square feet and 94 parkside lots with a minimum size of 5,000 square feet and average size of 5,631 square feet versus 95 estates lots (average 7,030 sq.ft.) and 111 parkside lots (average 5,770 sq.ft.) as identified with the originally proposed plan. Second, the overall alternative plan will have a gross density of 3.5 dwelling units per acre (du/ac) versus a gross density of 4.13 du/ac with the originally proposed plan. Third, the alternative plan provides for ~~14.4~~ ***14.2*** acres of park / open space use versus ~~8.4~~***8.2*** acres of park / open space under the proposed plan. Fourth, the alternative land use plan provides for avoidance and preservation in place of the remnant pickleweed area and the EPA delineated pocket wetland area. Fifth, the alternative land use plan provides for a 464-foot buffer from the closest proposed residential use to the portion of the ESHA located on-site versus a 60-foot buffer identified with the originally proposed plan. Lastly, the alternative land use plan includes a 133-foot separation (including a 50-foot wide paseo park) from the existing residential units along Kenilworth to the closest proposed residential unit.

The proposed applications discussed in the Draft EIR (i.e., General Plan, zoning maps and CUP) will be revised to reflect this alternative layout.

Under this scenario, City staff would also consider the non-annexation alternative. This non-annexation alternative would restrict development of the proposed 9 residential units within the

County portion of the project site. Within this alternative, the total number of residential dwelling units proposed within the City of Huntington Beach portion of the project would be a total of 164 units. This non-annexation alternative presents 7 fewer units than the 171 units Annexation alternative. Under the non-annexation alternative, 2 units are gained with the reconfiguration of roadways and lots. The impacts of the non-annexation alternative would essentially be the same as those to be discussed later under Alternative 8 and therefore are not repeated in the analysis provided below.

Environmental Assessment

The following is a review of potential environmental effects of the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA) described above and as shown in the above referenced exhibits.

It should be noted that the Mitigation Measures ~~contained in the original Draft EIR and~~ referenced in the following sections are included in their entirety within Sections ~~4.0~~ ***5.0 and 8.4*** of this ***Final EIR*** document.

Land Use

This alternative would result in land use impacts similar to those associated with the original project. Similar to the original project, the alternative plan may result in impacts related to the provision of affordable housing. Mitigation Measure 1 to ensure that no inconsistencies with the City's Affordable Housing policy would also still apply to this alternative plan. Density of the original project would be reduced from 4.13 du/ac proposed under the original project to 3.5 du/ac under the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA). The alternative is consistent with the adopted City of Huntington Beach General Plan land use designation of RL (Residential, Low Density) and with the City of Huntington Beach applicable goals and policies of the General Plan.

Additionally, implementation of the proposed project would result in the development of 9 residential dwelling units on the 4.5-acre County parcel. Although a lawsuit is pending on the current Bolsa Chica LCP designations, the County portion of the project site is currently designated as MLR (Medium low residential, 6.5 - 12.5 dwelling units per acre). Potential development of the County portion of the project site has been accounted for under the Bolsa Chica Land Use Plan, contained in the LCP. Construction of 9 residential dwelling units on the 4.5-acre County parcel would result in a density of 2.0 dwelling units per acre, which is lower than the originally proposed plan's density of 6.0 dwelling units per acre for this parcel. Therefore, the alternative is consistent with the County land use plan.

Aesthetics/Light and Glare

Although the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA) would result in the development of ~~37~~ ***35*** less units than the original project, the alternative still may be perceived as having a substantial, demonstrable, negative aesthetic effect due to the reduction of viewable open space areas. The increase in pad elevations (ranging from 10.9 feet to 11.5 feet (NAVD 88)) associated with this alternative mainly affect the northern portion of the site and are discussed in the paragraphs below. As stated above, the alternative plan also includes 6 additional acres of open space. Approximately

2 acres of the 6 additional acres comprise a 50-foot wide linear paseo park, which will act as a buffer between the existing Kenilworth residential units and the proposed residential units (refer to Exhibits 53 - 54b). The paseo park also provides pedestrian access to the proposed 8.2 acre public park (4.1 acres of passive public park and 4.1 acres of active public park) at the northwest corner of the site. Overall, the reduction of total dwelling units (i.e., ~~37~~ ***35*** units less) and addition of 6 acres of park space will assist in offsetting the aesthetic impacts associated with increased pad elevations across the site. Additionally, Mitigation Measures 1 and 2 under Aesthetics ***(Sections 5.0 and 8.4 of this document)*** would still apply to this alternative.

The following outlines the visual impacts to the existing adjacent homes located off of Kenilworth. The original plan analyzed in the Draft EIR depicted the proposed homes across from Kenilworth at pad elevations of 0.08 feet to 2.1 feet (NAVD 88). The proposed homes were to be located/setback (rear yard setback) 25 to 35 feet from the existing Kenilworth homes. Under the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA), the proposed pad elevations would increase to a range of 11.1 feet to 11.3 feet (NAVD 88) across different sections along Kenilworth (please refer to Exhibits 53, 54a and 54b, Key Map and Site Cross Sections). Although this increase is 9 to 10 feet above the original plans, the proposed homes would be located 133 to 154 feet from the existing Kenilworth homes. This is a 108 to 119 feet increase in separation of the original plan. The 133 foot separation is comprised of a 50-foot wide linear paseo park, which lies immediately adjacent to the existing Kenilworth Homes; a 56-foot roadway (i.e., "B" Street), which lies to the south of the paseo park; and a 27-foot front yard setback of the proposed Parkside Estates homes. At the project entry the 133-foot separation expands to 154 feet. This expansion occurs within the paseo park (i.e., 87 feet vs. 50 feet) and the entry roadway which includes a 15-foot landscaped median (i.e., 67 feet vs. 56 feet).

Visual Simulation

In order to provide a realistic analysis of the potential aesthetic impacts of the proposed alternative on the existing residential development along Kenilworth, a visual simulation study was conducted by Focus 360. The study involved taking a series of photographs of the existing conditions (please refer to Exhibit 55, All Alternatives Visual Simulations - Existing Condition). The first view on Exhibit 55, is taken from the rear wall/fence line of an existing home (5322 Kenilworth Drive). The photo depicts a panoramic view across the project site to the CO5 Channel. The second photo on Exhibit 55 was taken from the corner of Graham Street looking west, depicting the rear wall along the existing residential units. The photo also shows the backs of the existing Kenilworth homes and the existing vegetation, which currently interrupts the view across the project site. Because of this existing vegetation and in order to provide a "worst~~e~~ case" visual analysis, the photograph of the existing project site was taken from the Kenilworth home rear wall/fence on the Shea property.

The existing condition view (top photo on Exhibit 55) was then utilized to build the visual simulation for the original project analyzed in the Draft EIR and the proposed alternative (please refer to Exhibit 56, Alternatives 6 & 8 - Visual Simulations - Reduced Density Alternative - June 2000 FEMA). Exhibit 56 shows the proposed alternatives 6 and 8, which consist of existing June 2000 FEMA elevations of 10.9 feet (NAVD 88) along with a simulation of the original project analyzed in the Draft EIR. The simulation shows that the higher pad elevations of the proposed alternative do not create any adverse impacts on the existing homes' privacy and views. The proposed 133-foot separation including a 50-foot landscaped buffer (i.e., paseo park) in this

alternative creates more privacy for the existing homes on Kenilworth as compared to the original project. The simulations depict a more aesthetically pleasing view of the proposed alternative's homes' front yards versus the original project's homes' rear yards.

Based upon the above analysis and exhibits included herein, this alternative would result in similar aesthetic impacts as the originally proposed project. Although the pad elevations are higher with this alternative (i.e., 9 to 10 feet), the separation is greater (i.e., 108 to 119 feet) and serves to offset the increase in pad elevations.

This alternative plan would preserve the majority of eucalyptus trees located on the City portion of the site by locating the trees within a park, similar to the original project. Only those trees on the City parcel that have been designated within the Arborist Report as requiring removal would be removed. The rationale for removing dead or dying trees is provided within the Arborist reports, dated September 29, 1996 and September 1998, respectively. The report prepared for the grove located in the City Parcel is located in Appendix G of the Draft EIR and Appendix B of this document and the report prepared for the grove located in the County Parcel is located in Appendix B in this document. Mitigation Measure 3 under Aesthetics, would still apply to this alternative to reduce impacts related to the removal of any dead or dying trees on site to a level less than significant. As stated above, this Alternative proposes complete avoidance of all the eucalyptus trees located within the County portion of the site, unlike the original project. Additionally, the alternative provides a 464-foot buffer from the closest residential unit to the 0.13 acre on-site ESHA. The original project impacts related to the removal of eucalyptus trees and the on-site ESHA are eliminated by this alternative.

The alternative plan may result in impacts to County-proposed trails, similar to the original project. There are existing and proposed 8-foot wide County trails to the south and west of the project site. The project proposes 8-foot trails within the site. Exhibit 57, Conceptual Recreation and Open Space Plan, depicts the proposed trail and bike path plan for the 171 unit alternative plan. Mitigation Measure 4 under Aesthetics would apply to this alternative to reduce impacts to County-proposed trails to a level less than significant.

This alternative will reduce the amount of light and glare in the vicinity of the County parcel compared with the original project due to the fact that the amount of development is reduced (i.e., 9 units versus 27 units). However, compared with existing conditions, the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA) will incrementally increase the amount of light and glare in the vicinity of the project site and may impact the Bolsa Chica Preserve area south of the site, similar to but less than the original project. Mitigation Measures 1 through 3 under Light and Glare would still apply to this alternative.

Overall, this alternative will result in less than significant aesthetic impacts after mitigation, similar to the original project.

Transportation/Circulation

This alternative would contribute to short-term construction related impacts due to the addition of truck and construction vehicle traffic. The short-term impacts would be more than the original project due to an increase in the amount of dirt hauled (i.e., import) due to the increased floodplain elevation for the site and the duration of the grading operation. The same assumptions as in the original project (i.e., worst*e* case scenario - using one entrance/exit off of Graham

street) have been used in assessing the short-term daily trips for grading operations, therefore, the number of truck trips hauling dirt daily would remain the same as in the Draft EIR, however the duration of the grading operation would be lengthened from 6 to 12 months (refer to Earth Resources). Mitigation Measure 1 ***(Sections 5.0 and 8.4 of this document)*** regarding short-term impacts would still apply to this alternative. Short-term transportation/circulation impacts will be less than significant after mitigation.

This alternative also would result in long-term vehicular increases on the surrounding street system. Traffic improvements proposed for the project area still would be implemented with the alternative plan, as they also would be necessary with this alternative. However, due to the fact that this alternative proposes the development of ~~37~~ ***35*** fewer units than the original project, this plan would generate lower project traffic volumes than the original project. Long-term impacts associated with transportation/circulation would be less than the original project. As described in the Draft EIR, the original project would result in approximately 2,496 Average Daily Trips (ADT). Based on the proposed 171 dwelling units, the alternative would result in 2,052 ADT. This represents 444 fewer trips per day or an 18 percent reduction in ADT. Additionally, this scenario presents a total of 164 trips during the morning peak hour and 205 trips during the evening peak hour, compared to 200 and 250 morning and evening peak hour trips for the original project. Although there would be a reduction in ADT with this alternative plan, Mitigation Measures 2 through 4 ***(Sections 5.0 and 8.4 of this document)***, regarding potential impacts to pedestrian, bicycle, and vehicular safety related to the establishment of access and an on-site circulation system and Mitigation Measure 5 ***(Sections 5.0 and 8.4 of this document)*** regarding potential level of service deficiencies at the intersections of Bolsa Chica Street and Warner Avenue and Graham Street and Warner Avenue under the 2020 condition would still apply.

Air Quality

Impacts from the alternative plan associated with short-term air quality would be more than the original project, due to an increase in the amount of dirt hauled and the increase in duration of the grading operation from 6 to 12 months (refer to Earth Resources). Impact significance, however, is based upon a daily or quarterly pollution generation level which is not substantially different from the original Draft EIR project, because the greater fill import volume is spread out over a longer timeframe. The potential impact significance is also reduced by the construction of ~~37~~ ***35*** fewer homes which would result in less construction activity air quality impacts (i.e., emissions from construction equipment, haul vehicles and fugitive dust) than those generated by the original project. The combination of an extended construction duration and fewer units built will create peak activity day unmitigated nitrogen oxides (NO_X) emissions in excess of SCAQMD thresholds that are almost identical to the original project (58 percent "excess" for the original project versus 55 percent for this alternative) (refer to Appendix E, Supplemental Air Quality Data). Mitigation Measures 1 through 6 ***(Sections 5.0 and 8.4 of this document)*** ~~in the Draft EIR~~ regarding short-term impacts during construction activities would still be applicable to this alternative. Application of these Mitigation Measures would reduce short-term construction activity impacts to a level that is less than significant on a daily or quarterly basis. The extension of the emissions duration from 6 to 12 months is considered an adverse, but less than significant air quality impact.

This alternative would result in fewer long-term mobile source emissions than the original project due to the reduced ADT from ~~37~~ ***35*** less units. Estimation of mobile source emissions is

based on ADT; therefore, since the plan alternative is estimated to result in an 18 percent reduction in ADT (as described above), it is assumed that the plan alternative would result in proportionately less mobile source emissions (i.e., 18 percent). Mitigation Measures 7 and 8 ***(Sections 5.0 and 8.4 of this document)***, ~~identified in the Draft EIR~~ to reduce impacts related to long-term impacts would still apply to this alternative, thereby reducing the alternative's long-term and incremental contribution to this impact to a level less than significant.

Noise

This alternative would result in more short-term impacts compared to the original project during construction activities due to an increase in the amount of dirt hauled and the increased duration of the grading operation from 6 to 12 months. Standard City policies and Mitigation Measures 1 and 2 ***(Sections 5.0 and 8.4 of this document)*** ~~from the Draft EIR~~ would still apply to this alternative. Short-term noise impacts will be less than significant after mitigation.

Long-term noise impacts due to the increase in traffic would be less than the original project due to less traffic being generated than the original project. Estimation of noise impacts due to increase in traffic is based on ADT; therefore, since the alternative plan is estimated to result in an 18 percent reduction in ADT (as described above), it is assumed that the plan alternative would result in proportionately less traffic-related noise impacts (i.e., 18 percent). Although the plan alternative would result in less traffic-related noise impacts, Mitigation Measure 3 ***(Sections 5.0 and 8.4 of this document)*** ~~in the Draft EIR~~ identified to ensure new walls are constructed to achieve maximum noise reduction would still apply to this alternative.

Earth Resources

This alternative would result in similar impacts associated with liquefaction and soil settlement as the original project. The City would require that any proposed development implement remedial grading activities. In order to achieve the required FEMA base floodplain elevation on site, there would be an increase in amount of import, which correlates to the increased elevation. The amount of dirt hauled would be more compared to the original project (please refer to Table BB, Cut, Fill and Import Quantities). Additionally, the duration of grading operation under this alternative would be proportionately longer (i.e., 12 months compared to the 6 months in the original project). This is due to the increase in amount of import related to the increased elevations. Mitigation Measures 1 through 6 ***(Sections 5.0 and 8.4 of this document)*** ~~identified in the Draft EIR~~ to reduce impacts also would still apply to this alternative. Grading impacts will be less than significant after mitigation.

Table BB

Cut, Fill, and Import Quantities

Alternative	Min. Pad Floodplain Elevation	Pad Elevation Range	Cut	Fill	Import	Duration*
Alternative 6 - Reduced Density Alternative (9-lot County) - June 2000 FEMA	10.9 ft. at southwest corner (NAVD 88)	10.9 - 11.5 ft.	920 c.y.	501,890 c.y.	500,970 c.y.	12.0 months
Alternative 7 - Reduced Density Alternative (9-lot County) - updated FEMA with applicant's LOMR	5.5 ft. (NAVD 88)	5.5 - 11.4 ft.	4,950 c.y.	268,240 c.y.	263,290 c.y.	6.0 months
Alternative 8 - Reduced Density Alternative (0-lot County) - June 2000 FEMA	10.9 ft. at southwest corner (NAVD 88)	10.9 - 11.5 ft.	860 c.y.	485,980 c.y.	485,120 c.y.	11.0 months
Alternative 9 - Reduced Density Alternative (0-lot County) - updated FEMA with applicant's LOMR	5.5 ft. (NAVD 88)	5.5 - 11.5 ft.	4,920 c.y.	249,940 c.y.	245,020 c.y.	6.0 months
Original Project In Draft EIR	1.0 ft. (NAVD 88)	1.0 - 9.5 ft.	N/A	N/A	210,000 c.y.	6.0 months

Source: Reed Thomas Company, Inc.

Assumptions:

1. Using one entrance/exit off of Graham Street - worste case scenario, average 2,000 cubic yards per day (the amount of dirt hauled each day may vary due to supply).
2. Using conventional bottom dump trailers, two trailers per truck.
3. Average compacted volume per truck trip with two trailers is 14 cubic yards.

* The duration figures have been "rounded up" to the nearest month to provide for a conservative analysis. According to Reed Thomas Company, Inc. a minimum of 6 months (noted in the Draft EIR) is necessary to import 210,000 cy, 245,020 cy or 263,290 cy due to fact that the amount of dirt hauled may vary on a daily basis, due to the supply. Based on experience with similar projects, Reed Thomas Company believes that a 6 month timeframe can accommodate an import of 210,000 cy and 263,290 cy.

Drainage/Hydrology

This alternative would result in increased surface water runoff due to the covering of surface soils with impermeable structures and surfaces, less than that of the original project due to the construction of ~~37~~ ***35*** fewer homes and provision of 6 additional acres of open space/parkland. The development under this alternative also would require the storm drainage improvements as proposed by the original project (please refer to Exhibit 58). Mitigation Measure 1 ***(Sections 5.0 and 8.4 of this document)*** related to drainage, flooding and cumulative impacts, and Mitigation Measures 2 and 3 ***(Sections 5.0 and 8.4 of this document)*** related to water quality and cumulative impacts ~~identified in the Draft EIR~~ to reduce impacts also would apply to this alternative.

This alternative's potential impacts related to flooding are discussed below. A majority of this discussion has been summarized from the January 30, 2001 study prepared by Exponent and contained in Appendix C of this document. Because the basis for flood analysis is the project's designation by a FEMA FIRM, the following discussion has been provided.

On June 14, 2000 the Federal Emergency Management Agency (FEMA) issued a LOMR and a revised Flood Insurance Rate Map (FIRM) for flood-prone areas along the East Garden Grove-Wintersburg (C05) and Ocean View (C06) Channels in Huntington Beach, Orange County. The revised FIRM, still identified as Map No. 06059C0036F having a revision date of January 3, 1997, shows the flood hazards as unnumbered A-Zones (this revised map has not been published but a reproducible copy has been provided to the City for circulation by request). An A-Zone designates an area subject to flooding during a 100-year (1% annual chance) event, but because adequately detailed hydraulic analyses have not been performed, no base flood elevations (BFEs) or depths are shown on the map. The February 14, 2000 approximate study (performed by WEST Consultants) submitted by the County of Orange, which formed the basis for FEMA's actions, reported a potential flooding depth of about 8 feet over the proposed Parkside Estates project site. In the absence of a detailed hydraulic analysis, new BFE's were "informally" produced by the County and as shown on Exhibit 48, range between 10.2 feet and 10.9 feet (1988 datum)[2]. These BFE's were utilized to calculate the pad elevations for this alternative.

The June 2000 FIRM superseded the previously existing FIRM (Map No. 06059C0036F) which had placed the Shea Homes property in Zone A99, as identified and discussed in the Draft EIR. Because the A99 zone is considered an "interim" zone, the local authority (i.e., City) has the discretion to dictate minimum pad elevations for a project on the best available information. At the time the Draft EIR was prepared, the City of Huntington Beach required minimum pad elevations for Tentative Tracts 15377 and 15419 to be 1.00 foot above the then known base flood elevation (NGVD 29 datum). The last FIRM based on a FEMA detailed Flood Insurance Study (FIS) was Map No. 06059C0036E, with an effective date of September 15, 1989. This FIRM showed the proposed Shea Homes property in Zone AH with a BFE of 1 ft (NGVD 29) or 3.44 feet (NAVD 88 datum)[1].

---

[2] All elevations in the focused detailed Flood Insurance Study prepared by Exponent for Shea Homes are based on mean sea level, (National Geodetic Vertical Datum of 1929 (NGVD 29)). The Shea Homes development elevations, in separate documents, are based on mean sea level, (North American Vertical Datum of 1988 (NAVD 88). NGVD 29 elevations may be converted to NAVD 88 elevations by adding 2.44 feet to NGVD 29 elevations.

By issuing a LOMR and revised FIRM based on approximate rather than detailed methods, FEMA anticipates that the City of Huntington Beach will require a more detailed Flood Insurance Study from the project applicant to ensure development conforms with National Flood Insurance Program (NFIP) regulations (see below).

As a condition of participating in the NFIP Huntington Beach is required to adopt and enforce floodplain management regulations that meet the minimum standards of the NFIP listed in Title 44 of the Code of Federal Regulations, Section 60.3. In areas designated as approximate Zone A, where FEMA has not provided detailed hydraulic studies, the City must comply with Paragraph 60.3 (b) (3) and (4):

> (b) When the Administrator has designated areas of special flood hazards (A zones) by the publication of a community's FHBM or FIRM, but has neither produced water surface elevation data nor identified a floodway or coastal high hazard area, the community shall:
>
> (3) Require that all new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, include within such proposals base flood elevation data;
>
> (4) Obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State, or other source, including data developed pursuant to paragraph (b)(3) of this section, as criteria for requiring that new construction, substantial improvements, or other development in Zone A on the community's FHBM or FIRM meet the standards in paragraphs (c)(2), (c)(3), (c)(5), (c)(6), (c)(12), (c)(14), (d)(2) and (d)(3) of this section;

The proposed Parkside Estates project meets the threshold size necessary to trigger this regulation. The project applicant retained Exponent to prepare a detailed Flood Insurance Study for the property. The results of the study, which predict a lower base flood elevation for the project site, are discussed under Alternative 7 in the following section.

The current effective Flood Insurance Study states the need for a more detailed flood plain analysis, and the NFIP regulations require the City of Huntington Beach to eliminate the approximations in the present study for development projects larger than 50 units. The BFE's presented in this alternative indicate potentially greater impacts related to flooding than the existing and proposed condition, which was analyzed in the DEIR. However, the proposed design of this alternative, including the higher pad elevations, storm drain improvements, addition of greater pumping capacity to the Slater Pump Station, and improvements to the East Garden Grove Wintersburg Flood Control Channel, will mitigate the impacts to a level of less than significant.

The increase in flood water surface elevation to adjacent properties caused by the proposed development under this alternative is zero (0) foot for riverine flooding, and 0.12 foot for combined riverine and coastal storm surge flooding. The zero to negligible increase in water surface elevation from the project alternative is because drainage improvements (shown in

Exhibit 58) to be made as conditions of development more than make up for displacement by fill of storage volume on the project site and closure of the connection to Bolsa Chica lowlands draining the property to the west. The proposed storm drain improvements include additional gravity drainage from the property to the Slater Pump Station and additional pumping capacity at the station. These storm drain improvements are shown on Exhibit 58. Mitigation Measures 1 through 3 ***(Sections 5.0 and 8.4 of this document)*** ~~in the Draft EIR~~ would apply to this alternative.

Biological Resources

This alternative would result in fewer impacts related to biological resources than the original project. Mitigation Measure 1 ***(Sections 5.0 and 8.4 of this document)***, which ensures that no construction impacts affect the potential active nesting sites for native birds of prey would still apply. As described in the Draft EIR, the original project would result in the removal of an EPA delineated pocket wetland and a 0.2 acre pickleweed patch located on the County portion of the project site. Implementation of the proposed alternative would not result in removal of the EPA delineated wetland nor the 0.2 acre pickleweed patch; therefore, the portion of Mitigation Measure 2 ***(Sections 5.0 and 8.4 of this document)*** under Biological Resources that is designed to mitigate for the loss of wetland would not be required. However, the latter portion of Mitigation Measure 2 still applies to the Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA), which requires "the preservation and enhancement of 2 acres of appropriate wildlife habitat per the Department of Fish and Game." Additionally, this Reduced Density Alternative (9-lot County) with Existing Base Floodplain Elevation (June 2000 FEMA) provides 3.3 acres of open space in the County parcel. An on-site preservation and enhancement plan for 2 acres will be implemented under this alternative per Mitigation Measure 2 ***(Sections 5.0 and 8.4 of this document)*** ~~of the EIR~~. Overall, this alternative results in less impacts to biological resources.

Cultural Resources

This alternative would result in potential impacts to archaeological resources, similar to those of the original project. Subsequent to the release of the Draft EIR and in response to comments, Mr. Brian Dillon, consulting archeologist conducted an additional survey of the project site. A copy of this report, dated, February 14, 2000, is contained in Appendix D of this document The Tentative Tract Maps contained in the Draft EIR were revised to ensure no remedial grading impacts would occur to ORA 83 as a result of project implementation. Refer to Section 3.0 of this document. The result of the study, prepared by Brian Dillon, states that the revision of the TTM's and redesign of the site result in mitigation of potential adverse impacts to the CA-ORA-83/86 archaeological site by avoidance of the site. The previous Tentative Tract Map in the Draft EIR included a potential overlap of roads, lots, etc. onto the easternmost fringe of archaeological site CA-ORA-83/86. The revised 171 unit Tentative Tract Map for this alternative includes relocation of roads, lots, etc. away from the archaeological site in an easterly direction, resulting in complete avoidance of the archaeological site. Mitigation Measures 1 through 3 ***(Sections 5.0 and 8.4 of this document)*** ~~identified in the Draft EIR Cultural Resources~~ would apply to this alternative.

Public Services and Utilities

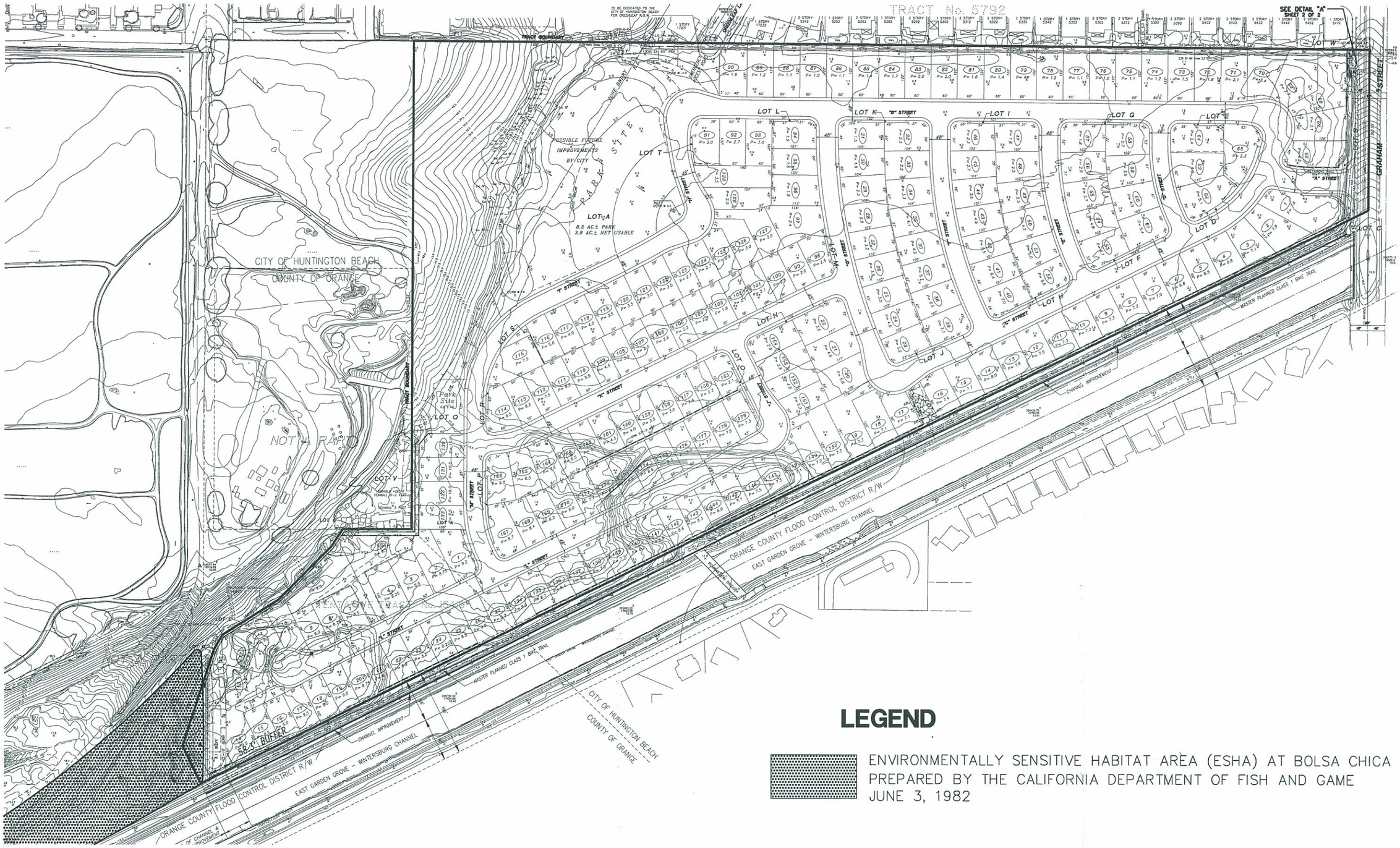
This alternative would result in impacts to public services and utilities that would be less than the original project. Because this alternative would result in the development of ~~37~~ ***35*** fewer units, the demands on existing public services and utilities (i.e., schools, sewer and water, fire protection, police protection, library, gas, electricity, hospitals, transit, etc.) would be less.

Although the impacts would be less with this alternative, Mitigation Measures 1 through 18 ***(Sections 5.0 and 8.4 of this document)*** under Public Services and Utilities ~~identified in the Draft EIR~~ would still apply to ensure impacts are reduced to a level less than significant.

Status of Alternative

This alternative is technically feasible. It meets the project applicant's objectives. This alternative reduces impacts of the original project in that it completely avoids the eucalyptus trees, the EPA delineated pocket wetland, and the pickleweed patch located on the County portion of the site, and provides a 464-foot buffer from the closest residential use to the 0.13 acre on-site ESHA. Furthermore, it provides 6 additional acres of open space. However, this alternative substantially increases the finished floor elevations, compared to the original project, which in turn increases the amount of import and hauling of dirt and lengthens the duration of grading operations and associated impacts (i.e., short-term air quality and noise impacts, etc.). Additionally, if the BFEs assumed for this alternative are correct, impacts related to flooding under this alternative could potentially be greater than under the condition analyzed in the Draft EIR in the absence of the increased pad elevations. However, the proposed design of this alternative, including the higher pad elevations, storm drain improvements, addition of greater pumping capacity to the Slater Pump Station, and improvements to the East Garden Grove Wintersburg Flood Control Channel, will mitigate the impacts to a level of less than significant.

Thus, although it reduces many impacts compared to the original project, it increases impacts related to grading, specifically the amount of time (i.e., 12 months vs. 6 months), which would be required to import dirt, to comply with current approximate FIS base floodplain elevations. Because this alternative reduces some of the impacts from the original project yet increases other impacts, it is considered to be environmentally similar to the original project and remains under consideration.



LEGEND

ENVIRONMENTALLY SENSITIVE HABITAT AREA (ESHA) AT BOLSA CHICA PREPARED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME JUNE 3, 1982

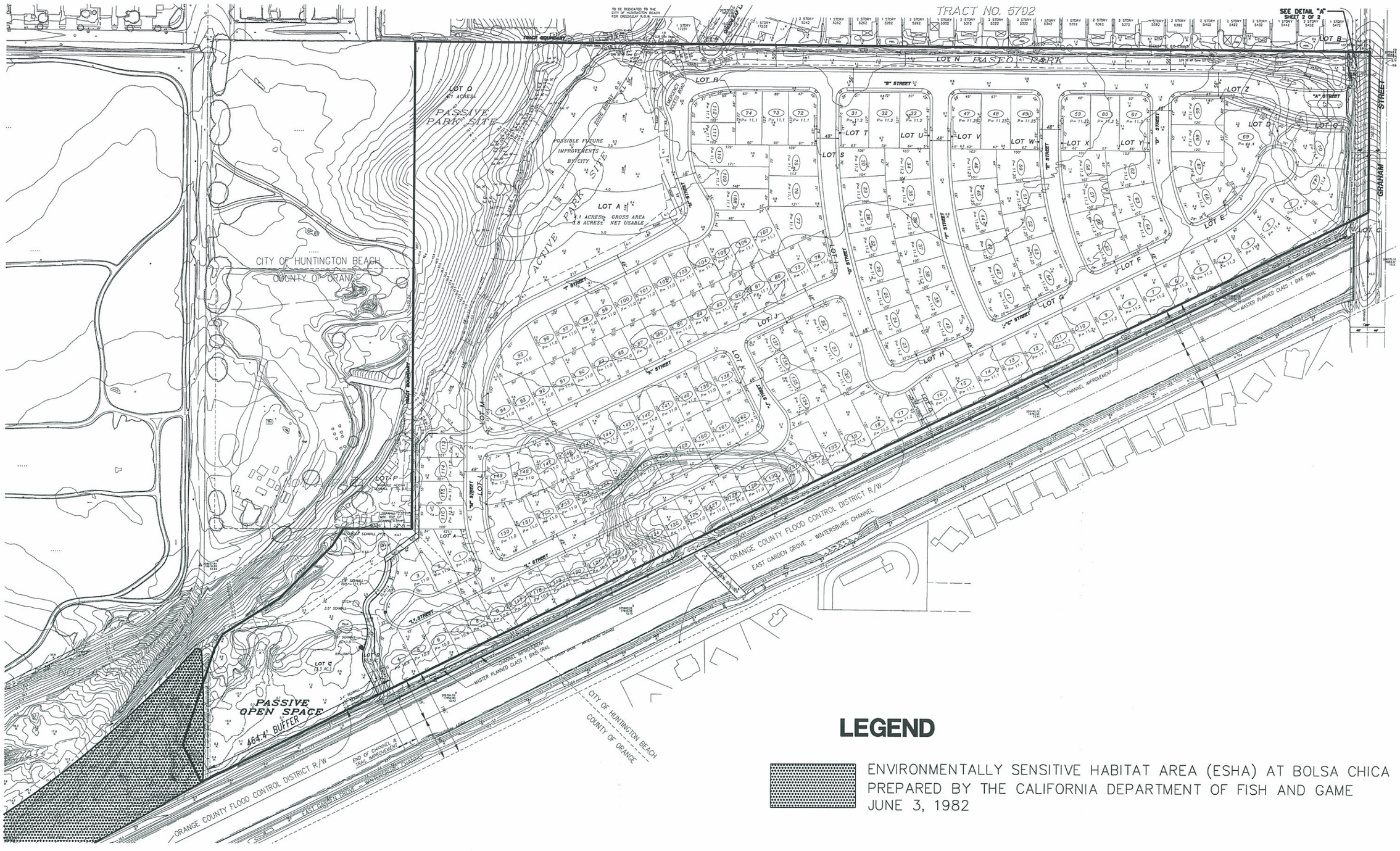
Scale: (approx.) 1"=215'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 47a

All Alternatives -Fish and Game ESHA Map - Original TTM



LEGEND

ENVIRONMENTALLY SENSITIVE HABITAT AREA (ESHA) AT BOLSA CHICA
PREPARED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME
JUNE 3, 1982

Scale: (approx.) 1"=215'

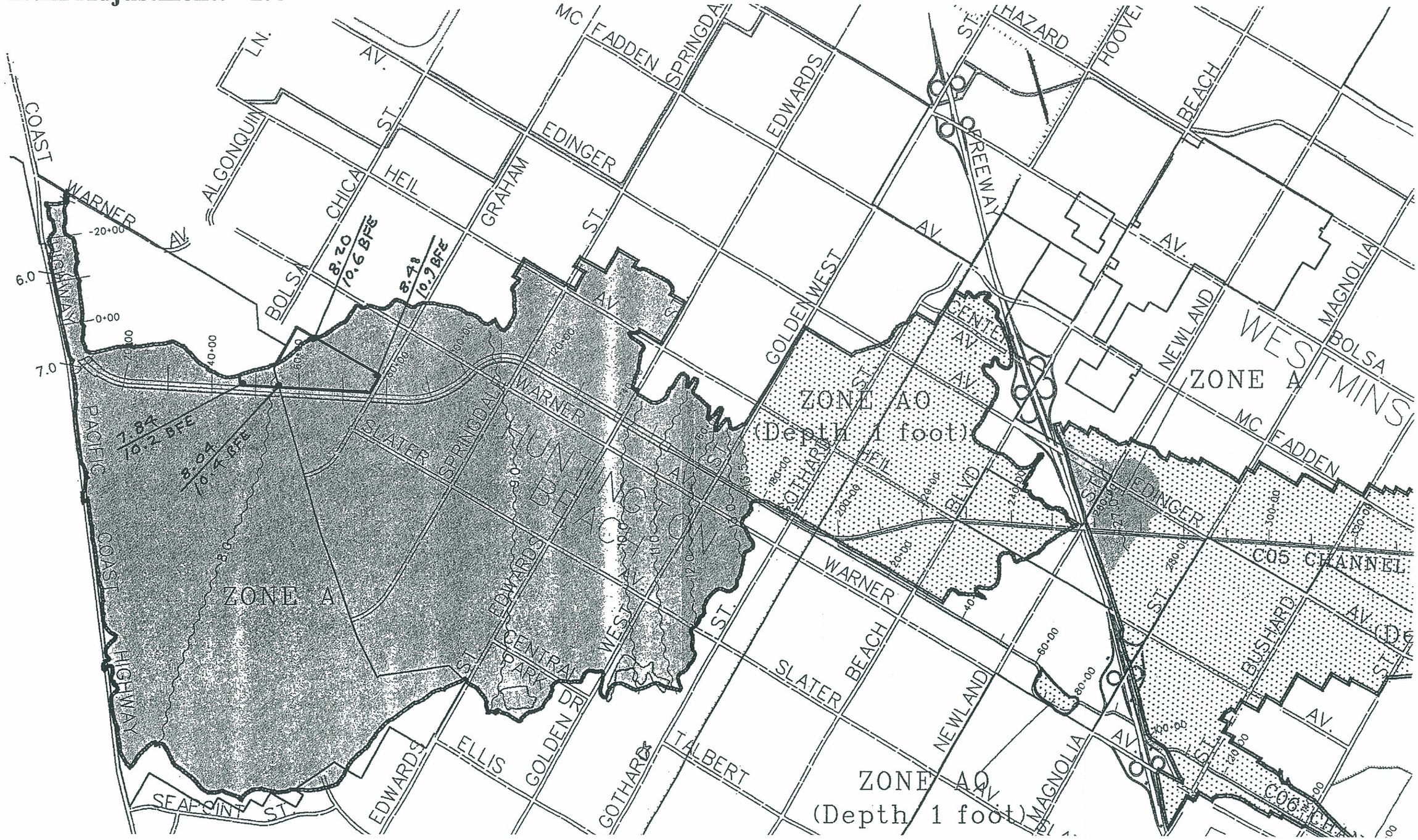
EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 47b

Alternatives 6 & 7-Fish and Game ESHA Map
Reduced Density Alternative (9-lot County) - June 2000 FEMA

Datum Adjustment: +2.4'



Scale: (approx.) 1"=2,000'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 48

All Alternatives-Approximate Base Flood Elevations (BFE)
June 2000 FEMA

LEGEND

	PASSIVE NEIGHBORHOOD PUBLIC PARK	4.1 AC.
	ACTIVE NEIGHBORHOOD PUBLIC PARK	4.1 AC.
	PASEO PARK, HOA COMMON AREAS, & PASSIVE OPEN SPACE	6.2 AC.
	60' WIDE LOTS (ESTATES)	77 LOTS
	50' WIDE LOTS (PARKSIDE)	94 LOTS

AVERAGE LOT SIZE

ESTATES	7,359 S.F.
PARKSIDE	5,631 S.F.
OVERALL PROJECT	6,409 S.F.

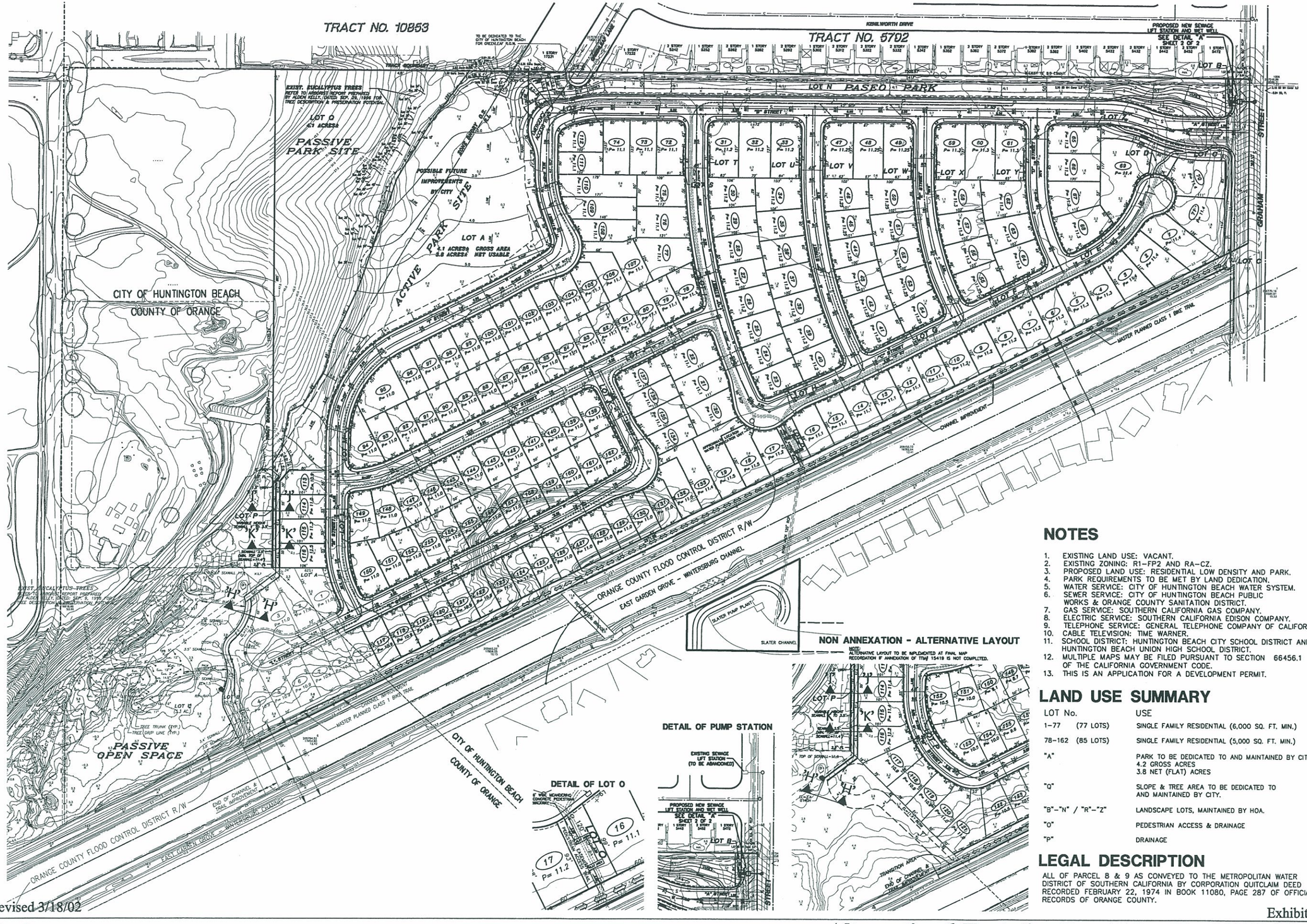
Scale: (approx.) 1"=200'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 49

Alternatives 6 & 7-Conceptual Land Use Plan 171 Lots
Reduced Density Alternative (9-lot County) - June 2000 FEMA



NOTES

1. EXISTING LAND USE: VACANT.
2. EXISTING ZONING: R1-FP2 AND RA-CZ.
3. PROPOSED LAND USE: RESIDENTIAL LOW DENSITY AND PARK.
4. PARK REQUIREMENTS TO BE MET BY LAND DEDICATION.
5. WATER SERVICE: CITY OF HUNTINGTON BEACH WATER SYSTEM.
6. SEWER SERVICE: CITY OF HUNTINGTON BEACH PUBLIC WORKS & ORANGE COUNTY SANITATION DISTRICT.
7. GAS SERVICE: SOUTHERN CALIFORNIA GAS COMPANY.
8. ELECTRIC SERVICE: SOUTHERN CALIFORNIA EDISON COMPANY.
9. TELEPHONE SERVICE: GENERAL TELEPHONE COMPANY OF CALIFORNIA.
10. CABLE TELEVISION: TIME WARNER.
11. SCHOOL DISTRICT: HUNTINGTON BEACH CITY SCHOOL DISTRICT AND HUNTINGTON BEACH UNION HIGH SCHOOL DISTRICT.
12. MULTIPLE MAPS MAY BE FILED PURSUANT TO SECTION 66456.1 OF THE CALIFORNIA GOVERNMENT CODE.
13. THIS IS AN APPLICATION FOR A DEVELOPMENT PERMIT.

LAND USE SUMMARY

LOT No.	USE
1–77 (77 LOTS)	SINGLE FAMILY RESIDENTIAL (6,000 SQ. FT. MIN.)
78–162 (85 LOTS)	SINGLE FAMILY RESIDENTIAL (5,000 SQ. FT. MIN.)
"A"	PARK TO BE DEDICATED TO AND MAINTAINED BY CITY. 4.2 GROSS ACRES 3.8 NET (FLAT) ACRES
"Q"	SLOPE & TREE AREA TO BE DEDICATED TO AND MAINTAINED BY CITY.
"B"–"N" / "R"–"Z"	LANDSCAPE LOTS, MAINTAINED BY HOA.
"O"	PEDESTRIAN ACCESS & DRAINAGE
"P"	DRAINAGE

LEGAL DESCRIPTION

ALL OF PARCEL 8 & 9 AS CONVEYED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY CORPORATION QUITCLAIM DEED RECORDED FEBRUARY 22, 1974 IN BOOK 11080, PAGE 287 OF OFFICIAL RECORDS OF ORANGE COUNTY.

Scale: (approx.) 1"=215'

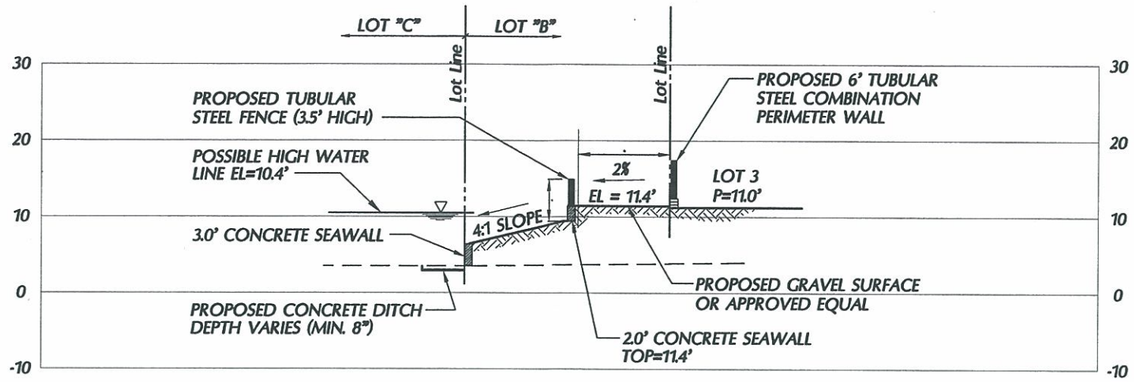
EDAW, Inc. 6/11/01, Revised 3/18/02

Source: Hunsaker & Associates Irvine, Inc.

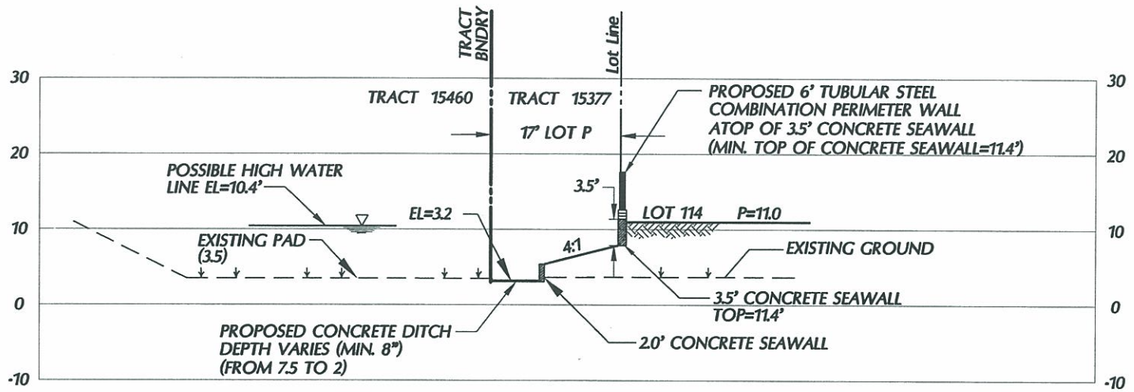
Exhibit 50

Alternative 6-Tentative Tract Map No. 15377 (City)

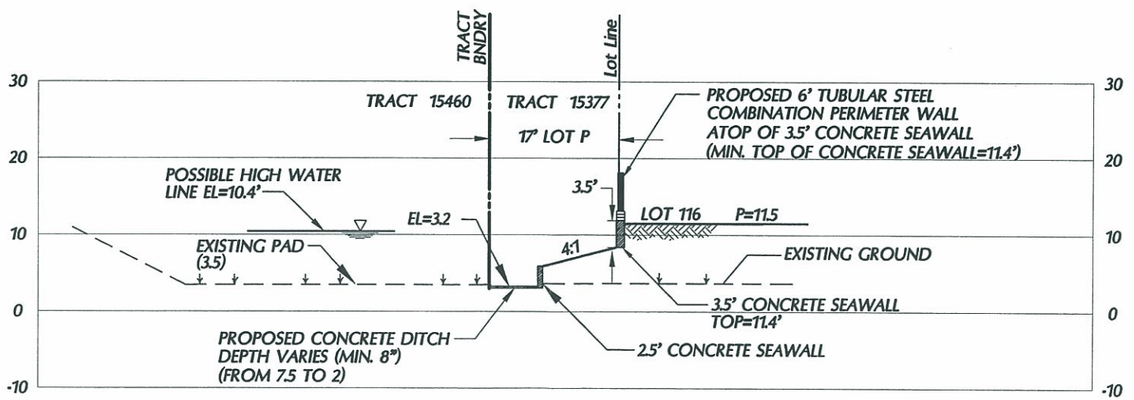
Reduced Density Alternative (9-lot County) - June 2000 FEMA



SECTION "H" - "H"



SECTION "J" - "J"



SECTION "K" - "K"

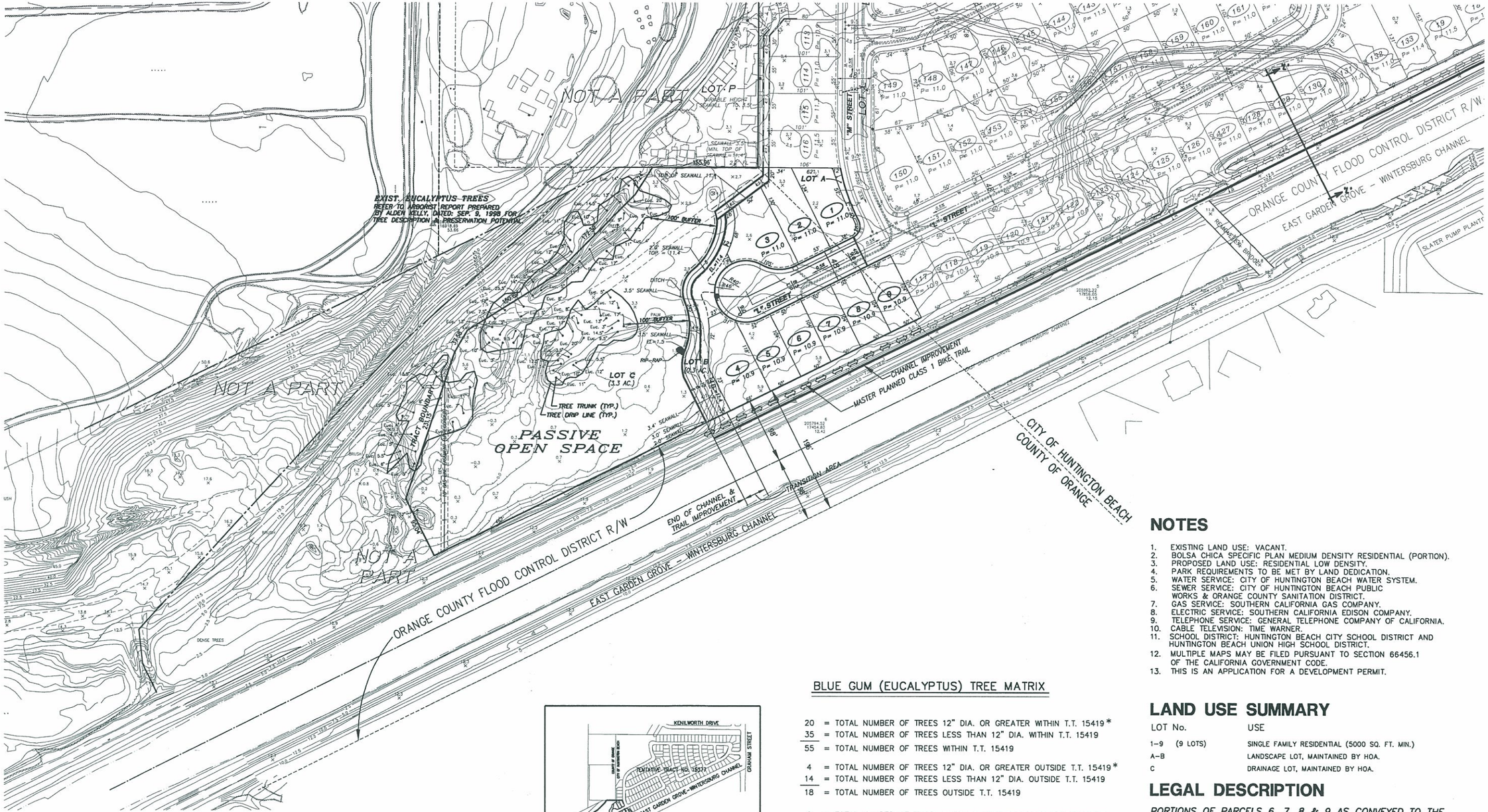
Scale: (approx.) 1"=20'

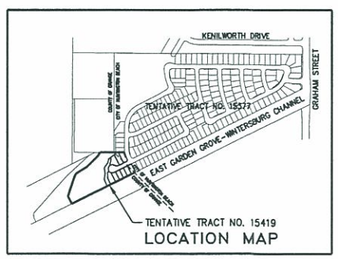
EDAW, Inc. 3/18/02

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 50a

Alternative 6-TTM No. 15377 - Cross Sections (City)
Reduced Density Alternative (9-lot County) - June 2000 FEMA





BLUE GUM (EUCALYPTUS) TREE MATRIX

20	= TOTAL NUMBER OF TREES 12" DIA. OR GREATER WITHIN T.T. 15419*
35	= TOTAL NUMBER OF TREES LESS THAN 12" DIA. WITHIN T.T. 15419
55	= TOTAL NUMBER OF TREES WITHIN T.T. 15419
4	= TOTAL NUMBER OF TREES 12" DIA. OR GREATER OUTSIDE T.T. 15419*
14	= TOTAL NUMBER OF TREES LESS THAN 12" DIA. OUTSIDE T.T. 15419
18	= TOTAL NUMBER OF TREES OUTSIDE T.T. 15419
0	= TOTAL NUMBER OF TREES REMOVED WITH PROPOSED DEVELOPMENT
73	= TOTAL NUMBER OF TREES PRESERVED WITH PROPOSED DEVELOPMENT

* REFER TO PAGES 5 AND 6 (TABLE 1) OF THE SEPTEMBER, 1998 CONSULTING ARBORIST'S REPORT, PREPARED BY ALDEN KELLEY.

NOTES

1. EXISTING LAND USE: VACANT.
2. BOLSA CHICA SPECIFIC PLAN MEDIUM DENSITY RESIDENTIAL (PORTION).
3. PROPOSED LAND USE: RESIDENTIAL LOW DENSITY.
4. PARK REQUIREMENTS TO BE MET BY LAND DEDICATION.
5. WATER SERVICE: CITY OF HUNTINGTON BEACH WATER SYSTEM.
6. SEWER SERVICE: CITY OF HUNTINGTON BEACH PUBLIC WORKS & ORANGE COUNTY SANITATION DISTRICT.
7. GAS SERVICE: SOUTHERN CALIFORNIA GAS COMPANY.
8. ELECTRIC SERVICE: SOUTHERN CALIFORNIA EDISON COMPANY.
9. TELEPHONE SERVICE: GENERAL TELEPHONE COMPANY OF CALIFORNIA.
10. CABLE TELEVISION: TIME WARNER.
11. SCHOOL DISTRICT: HUNTINGTON BEACH CITY SCHOOL DISTRICT AND HUNTINGTON BEACH UNION HIGH SCHOOL DISTRICT.
12. MULTIPLE MAPS MAY BE FILED PURSUANT TO SECTION 66456.1 OF THE CALIFORNIA GOVERNMENT CODE.
13. THIS IS AN APPLICATION FOR A DEVELOPMENT PERMIT.

LAND USE SUMMARY

LOT No.	USE
1–9 (9 LOTS)	SINGLE FAMILY RESIDENTIAL (5000 SQ. FT. MIN.)
A–B	LANDSCAPE LOT, MAINTAINED BY HOA.
C	DRAINAGE LOT, MAINTAINED BY HOA.

LEGAL DESCRIPTION

PORTIONS OF PARCELS 6, 7, 8 & 9 AS CONVEYED TO THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA BY CORPORATION QUITCLAIM DEED RECORDED FEBRUARY 22, 1974 IN BOOK 11080, PAGE 287 OF OFFICIAL RECORDS OF ORANGE COUNTY.

Scale: (approx.) 1"=150'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 51

Alternatives 6 & 7-Tentative Tract Map No. 15419 (County)

Reduced Density Alternative (9-lot County) - June 2000 FEMA

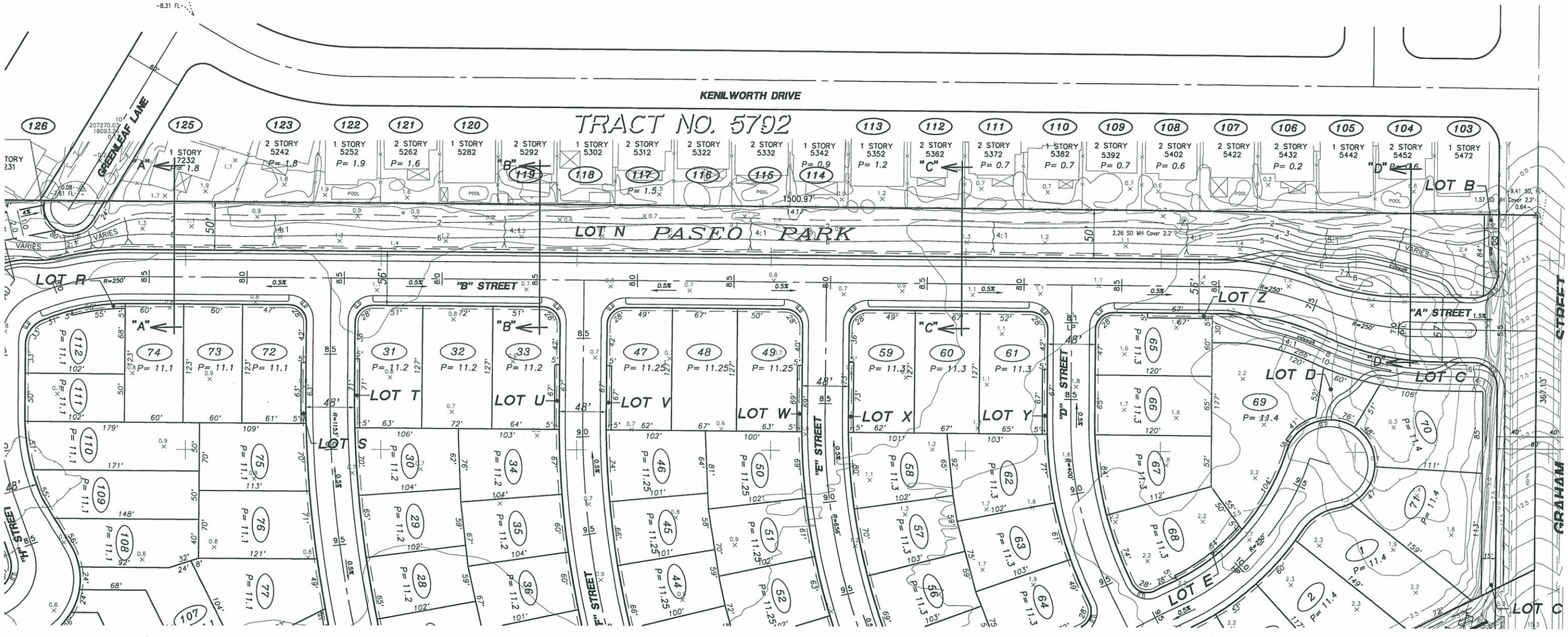
Scale: (approx.) 1"=225'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.
Frank Radmacher Associates, Inc

Exhibit 52

Alternatives 6 & 7-Conceptual Landscape Plan - Reduced Density Alternative
(9-lot County) - June 2000 FEMA



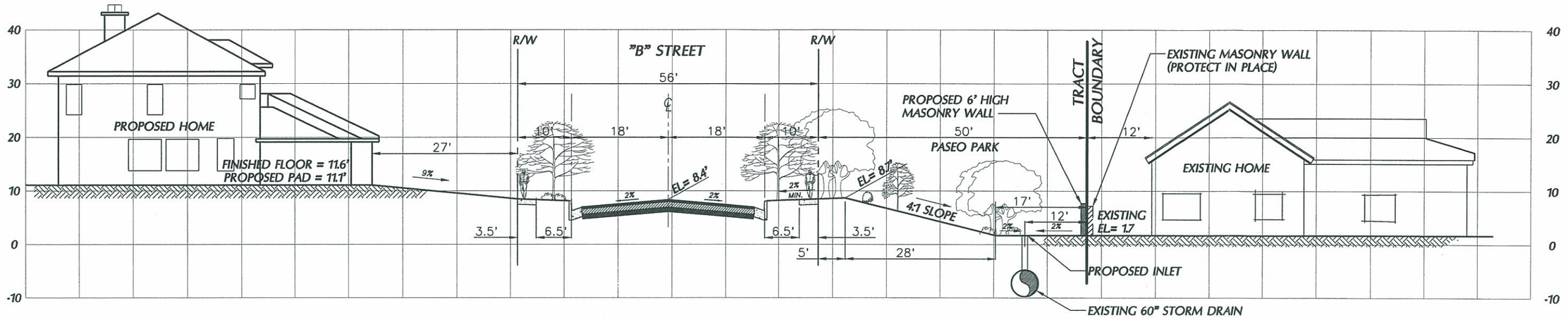
Scale: (approx.) 1"=100'

EDAW, Inc. 6/11/01

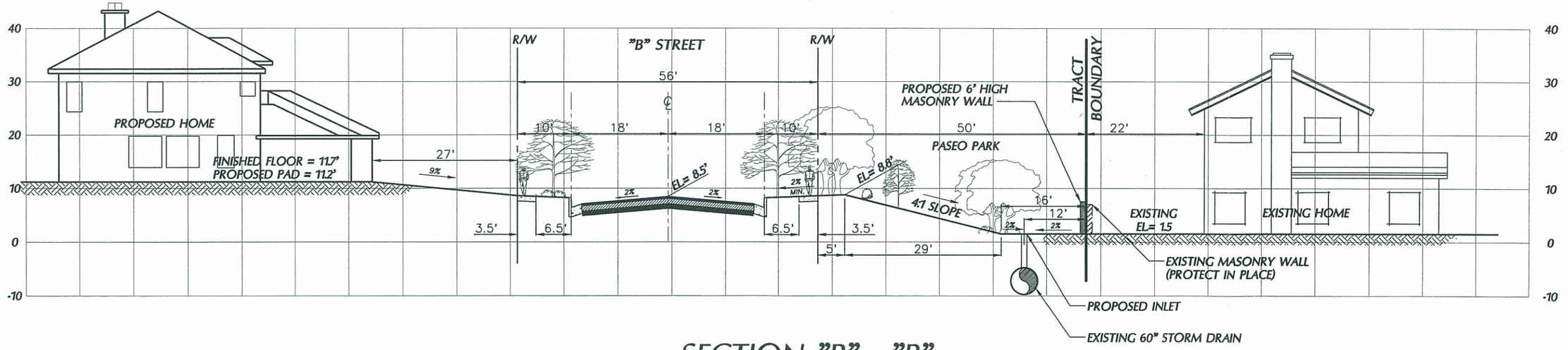
Source: Hunsaker & Associates Irvine, Inc.

Exhibit 53

Alternative 6-Key Map - Reduced Density Alternative (9-lot County) - June 2000 FEMA



SECTION "A" - "A"



SECTION "B" - "B"

See Key Map
For Cross-Section Locations

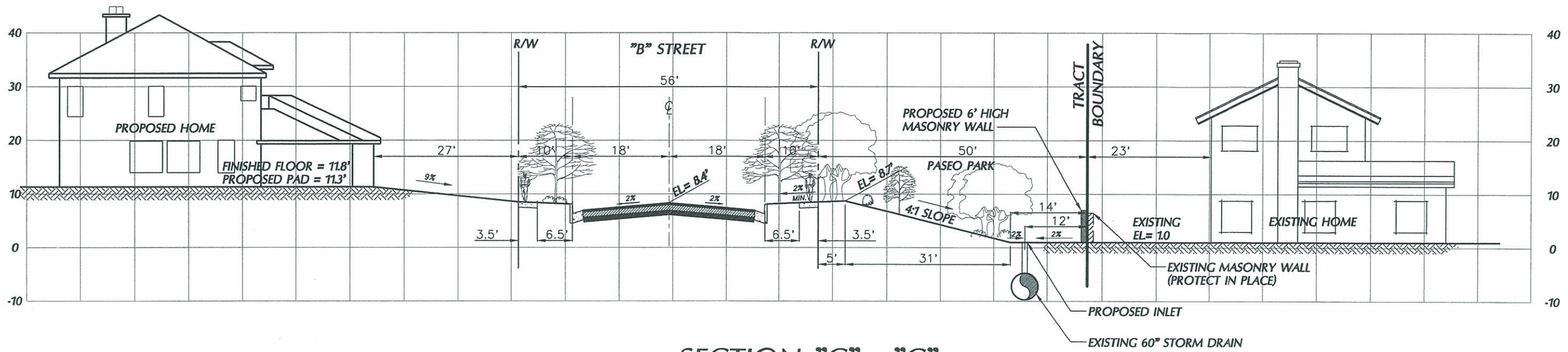
Scale: (approx.) 1"=20'

EDAW, Inc. 6/11/01

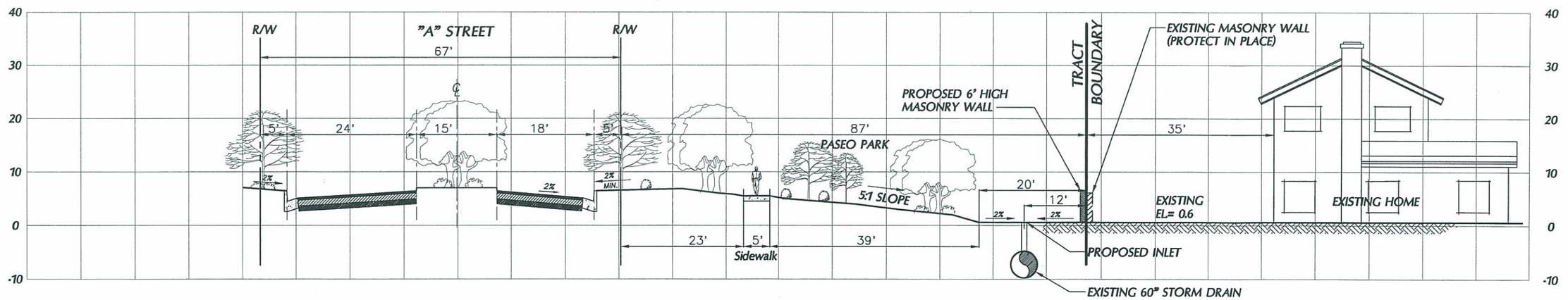
Source: Hunsaker & Associates Irvine, Inc.

Exhibit 54a

Alternative 6-Site Cross Sections
Reduced Density Alternative (9-lot County) - June 2000 FEMA



SECTION "C" - "C"



SECTION "D" - "D"

Scale: (approx.) 1"=20'

EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.

See Key Map
For Cross-Section Locations

Exhibit 54b

Alternative 6-Site Cross Sections
Reduced Density Alternative (9-lot County) - June 2000 FEMA

View from rear fence line of existing home (5322 Kenilworth) looking South towards the existing site and CO5 Channel.

View from corner of Graham Street looking West along the wall and vegetation of existing homes on Kenilworth.

View from rear fence line of existing home (5322 Kenilworth) looking toward simulation of the original project.

View from rear fence line of existing home (5322 Kenilworth) looking toward simulation of Alternatives 6 & 8 (base flood elevation of 10.9 feet).

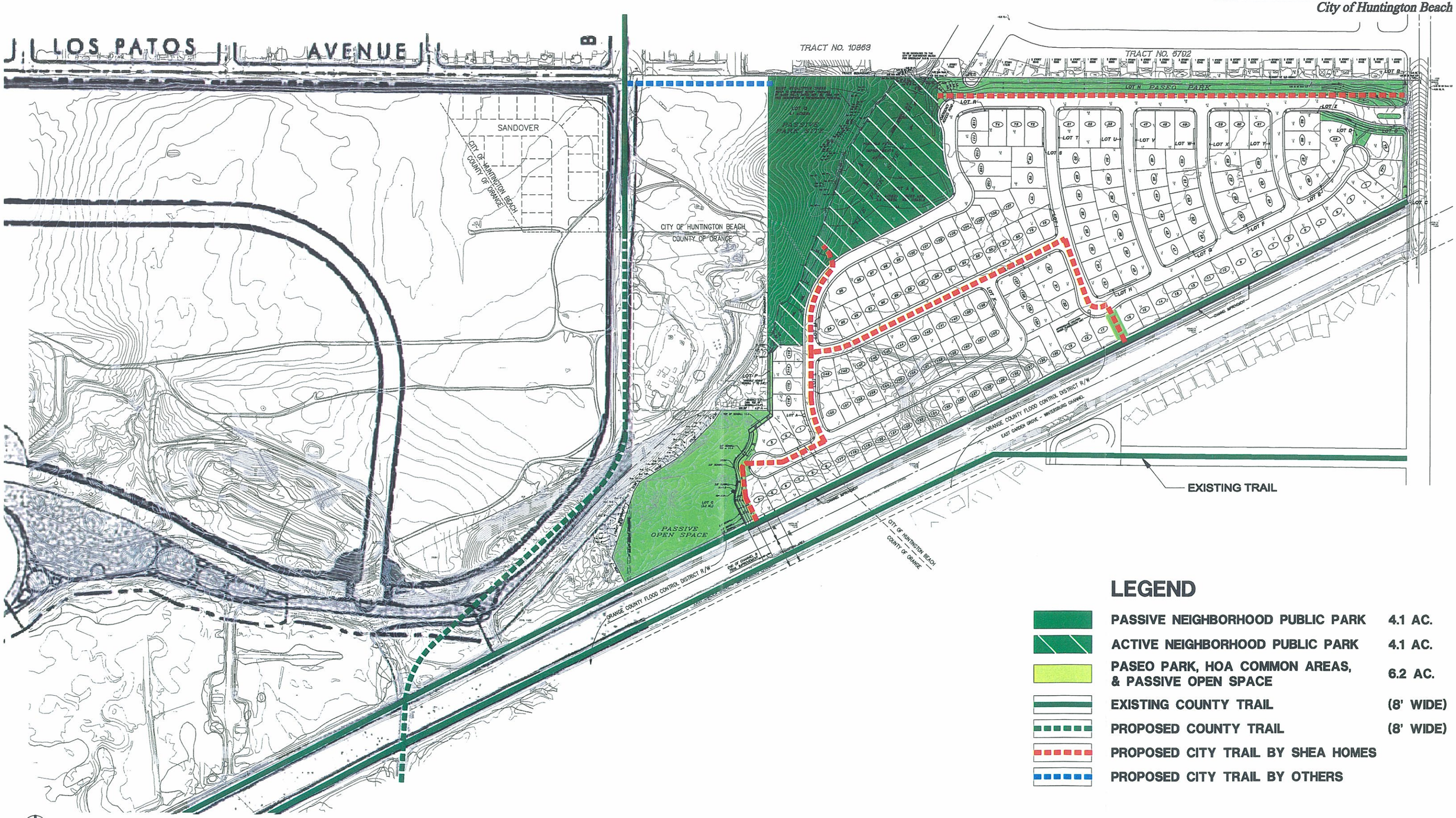
EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.
Source: Focus360

Exhibit 56

Alternatives 6 & 8 - Visual Simulations

Reduced Density Alternative - June 2000 FEMA



LEGEND

	PASSIVE NEIGHBORHOOD PUBLIC PARK	4.1 AC.
	ACTIVE NEIGHBORHOOD PUBLIC PARK	4.1 AC.
	PASEO PARK, HOA COMMON AREAS, & PASSIVE OPEN SPACE	6.2 AC.
	EXISTING COUNTY TRAIL	(8' WIDE)
	PROPOSED COUNTY TRAIL	(8' WIDE)
	PROPOSED CITY TRAIL BY SHEA HOMES	
	PROPOSED CITY TRAIL BY OTHERS	

Scale: (approx.) 1"=300'

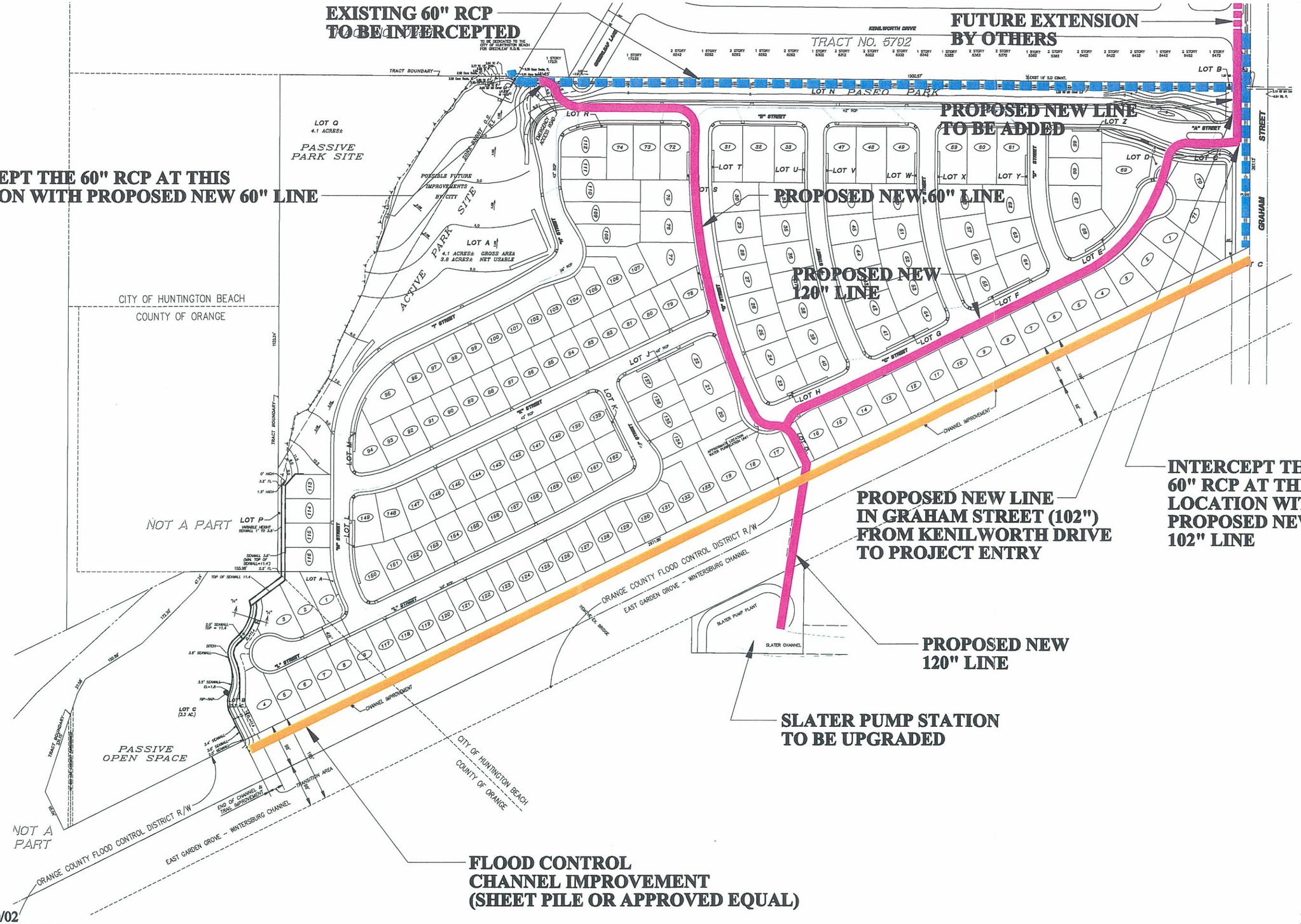
EDAW, Inc. 6/11/01

Source: Hunsaker & Associates Irvine, Inc.
Source: OCTA, Commuter Bikeways Strategic Plan

Exhibit 57

Alternatives 6 & 7-Conceptual Recreation and Open Space Plan

Reduced Density Alternative (9-lot County) - June 2000 FEMA



Scale: (approx.) 1"=200'

EDAW, Inc. 6/20/02

Source: Hunsaker & Associates Irvine, Inc.

Exhibit 58

Alternatives 6 & 7-Storm Drainage Map

Reduced Density Alternative (9-lot County) - June 2000 FEMA

~~2.3~~ 6.8 ALTERNATIVE 7 - REDUCED DENSITY ALTERNATIVE (9-LOT COUNTY) WITH PROJECTED BASE FLOOD ELEVATION (UPDATED FEMA WITH LOMR) - 4.5 FEET

Description of Alternative

Alternative 7 differs from Alternative 6 in the proposed base flood elevations (4.5 feet versus 10.9 feet). This alternative plan avoids all County eucalyptus trees (including the 0.13 acre eucalyptus ESHA located in the County portion of the project site, please refer to Exhibits 47a and 47b) by reducing the number of dwelling units located in the County from 27 lots to 9 lots. Under this alternative, the number of units in the City parcel have also been reduced by 17 units to accommodate buffers which assist in off-setting impacts of the revised base flood elevation for the site. Considering the above discussed factors, this alternative results in a total project dwelling unit reduction of ~~37~~ ***35*** from ~~208~~ ***206*** to 171 dwelling units (please refer to Exhibits 49, Conceptual Land Use Plan 171 lots; Exhibit 51, Tentative Tract Map (County); Exhibit 52, Conceptual Landscape Plan (contained in Section 2.2) and Exhibit 59, Tentative Tract Map (City) in this section. It should be noted that in order to reduce duplication, only those exhibits, which contain different information than the prior Alternative 6 are shown.

The Reduced Density Alternative (9-lot County) with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR) results in the following changes to the entire project. First, the alternative plan will have a total of 77 estate lots with a minimum size of 6,000 square feet and average size of 7,359 square feet and 94 parkside lots with a minimum size of 5,000 square feet and average size of 5,631 square feet versus 95 estate lots (average 7,030 sq. ft.) and 111 parkside lots (average 5,770 sq. ft.) as identified with the original proposed plan. Second, the overall alternative plan will have a gross density of 3.5 dwelling units per acre (du/ac) versus a gross density of 4.13 du/ac with the originally proposed plan. Third, the alternative plan provides for ~~14.4~~ ***14.2*** acres of park / open space use versus ~~8.48~~***8.2*** acres of park / open space under the proposed plan. Fourth, the alternative land use plan provides for avoidance and preservation in place of the remnant pickleweed area and the EPA delineated pocket wetland area. Fifth, the alternative land use plan provides for a 464-foot buffer from the closest proposed residential use to the portion of the ESHA located on-site versus a 60-foot buffer identified with the originally proposed plan. Lastly, the alternative land use plan includes a 133-foot separation (including a 50-foot wide paseo park) from the existing residential units along Kenilworth to the closest proposed residential units.

The proposed applications discussed in the Draft EIR (i.e., General Plan, zoning maps and CUP) will be revised to reflect this alternative layout.

Under this scenario, City staff would also consider the non-annexation alternative. This non-annexation alternative would restrict development of the proposed 9 residential units within the County portion of the project site. Within this alternative, the total number of residential dwelling units proposed within the City of Huntington Beach portion of the project would be a total of 164 units. This non-annexation alternative presents 7 fewer units than the 171-unit annexation alternative. Under the non-annexation alternative, 2 units are gained with the reconfiguration of roadways and lots. The impacts of the non-annexation alternative would essentially be the same as those to be discussed later under Alternative 9, and therefore are not repeated in the analysis provided below.

Environmental Assessment

The following is a review of potential environmental effects of the Reduced Density Alternative (9-lot County) with Projected Base Floodplain Elevation (updated FEMA with LOMR) described above and as shown in the above referenced exhibits.

It should be noted that the Mitigation Measures contained in the original Draft EIR and referenced in the following sections are included in their entirety within Section 4.0 of this document.

Land Use

This alternative would result in land use impacts similar to those associated with the original project. Similar to the original project, the alternative plan may result in impacts related to the provision of affordable housing. Mitigation Measure 1 to ensure that no inconsistencies with the City's Affordable Housing policy would also still apply to this alternative plan. Density of the original project would be reduced from 4.13 du/ac proposed under the original project to 3.5 du/ac under the Reduced Density Alternative (9-lot County) with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR). The alternative is consistent with the adopted City of Huntington Beach General Plan land use designation of RL (Residential, Low Density) and with the City of Huntington Beach applicable goals and policies of the General Plan.

Additionally, implementation of the proposed project would result in the development of 9 residential dwelling units on the 4.5-acre County parcel. Although a lawsuit is pending on the current Bolsa Chica LCP designations, the County portion of the project site is currently designated as MLR (Medium low residential, 6.5 - 12.5 dwelling units per acre). Potential development of the County portion of the project site has been accounted for under the Bolsa Chica Land Use Plan contained in the LCP. Construction of 9 residential dwelling units on the 4.5-acre County parcel would result in a density of 2.0 dwelling units per acre, which is lower than the originally proposed plan's projected density of 6.0 dwelling units per acre for this parcel. Therefore, the alternative is consistent with the County land use plan.

Aesthetics/Light and Glare

Although the Reduced Density Alternative (9-lot County) with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR) would result in the development of ~~37~~ *35* less units than the original project, the alternative still may be perceived as having a substantial, demonstrable, negative aesthetic effect due to the reduction of viewable open space areas. The increases in pad elevations (ranging from 5.5 feet (NAVD 88) to 11.4 feet : 5.5 feet adjacent to the Kenilworth homes and along the northern portion of the site and gradually increasing to 11.4 feet towards southwestern portion of the site adjacent to the CO5) associated with this alternative are discussed in the paragraphs below. As stated above, the alternative plan would include 6 additional acres of open space. Approximately 2 acres of the 6 additional acres comprise a 50-foot wide linear paseo park, which will act as a buffer between the existing Kenilworth residential units and the proposed residential units (refer to Exhibits 60 - 61b). The paseo park also provides pedestrian access to the 8.2-acre public park (4.1 acres of active and 4.1 acres of passive public park) at the northwest corner of the site. Overall, the reduction of total dwelling

units (i.e., ~~37~~ *35* units less) and addition of 6 acres of park space will assist in offsetting the aesthetic impacts associated with increased pad elevations across the site. Mitigation Measures 1 and 2 under Aesthetics would still apply to this alternative. Additionally, the decrease in elevation compared to Alternative 6 is due to a new "detailed flood insurance study" of the CO5, commissioned by the applicant. Along the northern portion of the site the proposed base flood elevation of 4.5 feet (NAVD 88), as developed by the detailed study, is considerably lower than the base flood elevation of 10.9 feet (NAVD 88) under the previous alternative and is not anticipated to create a significant impact.

The following outlines the visual impacts to the existing adjacent homes located off of Kenilworth. The original plan analyzed in the Draft EIR depicted the proposed homes across from Kenilworth at pad elevations of 0.08 feet to 2.1 feet (NAVD 88). The proposed homes were to be located/setback (rear yard setback) 25 to 35 feet from the existing Kenilworth homes. Under the Reduced Density Alternative (9-lot County) with Projected Floodplain Elevation (updated FEMA with Applicant's LOMR), the proposed pad elevations would increase to an elevation of 5.5 feet (NAVD 88) along Kenilworth (please refer to Exhibits 60, 61a and 61b, Key Map and Site Cross Sections on the following pages). Although this increase is approximately 2 to 4 feet above the original plans, the proposed homes would be located 133 to 154 feet from the existing Kenilworth homes. This is a 108 to 119 feet increase in separation from the original plan. The 133 foot separation is comprised of a 50-foot wide linear paseo park, which lies immediately adjacent to the existing Kenilworth homes; a 56-foot roadway (i.e., "B" Street), which lies to the south of the paseo park; and a 27-foot front yard setback of the proposed Parkside Estates homes. At the project entry the 133-foot separation expands to 154 feet. This expansion occurs within the paseo park (i.e. 87 feet vs. 50 feet) and the entry roadway which includes a 15-foot landscaped median (i.e., 67feet vs. 56 feet).

Visual Simulation

In order to provide a realistic analysis of the potential aesthetic impacts of the proposed alternative on the existing residential development along Kenilworth, a visual simulation study was conducted by Focus 360. The study involved taking a series of photographs of the existing conditions (please refer to Exhibit 55, All Alternatives Visual Simulations - Existing Condition (under Alternative 6)). The first view on Exhibit 55, is taken from the rear wall/fence line of an existing home (5322 Kenilworth Drive). The photo depicts a panoramic view across the project site to the CO5 Channel. The second photo on Exhibit 55 was taken from the corner of Graham Street looking west, depicting the rear wall along the existing residential units. The photo also shows the backs of the existing Kenilworth homes and the existing vegetation, which currently interrupts the view across the project site. Because of this existing vegetation and in order to provide a "worst*e* case" visual analysis, the photograph of the existing project site was taken from the Kenilworth home rear wall/fence on the Shea property.

The existing condition view (top photo on Exhibit 55) was then utilized to build the visual simulation for the original project analyzed in the Draft EIR and the proposed alternative (please refer to Exhibit 62, Alternatives 7 & 9 - Visual Simulations - Reduced Density Alternative - updated FEMA with LOMR). Exhibit 62 shows the proposed alternatives 7 and 9, which consist of projected floodplain elevations of 4.5 feet (NAVD 88) along with a simulation of the original project analyzed in the Draft EIR. The simulation shows that the higher pad elevations of the proposed alternative do not create any adverse impacts on the existing homes' privacy and views.

The proposed 133-foot separation including a 50-foot landscaped buffer (i.e., paseo park) in this alternative creates more privacy for the existing homes on Kenilworth as compared to the original project. The simulations depict a more aesthetically pleasing view of the proposed alternative's homes' front yards versus the original project's homes' rear yards.

Based upon the above analysis and exhibits included herein, this alternative would result in similar aesthetic impacts as the originally proposed project. Although the pad elevations are higher with this alternative plan (i.e., 2 to 4 feet), the separation is greater (i.e., 108 to 119 feet) and serves to offset the increase in pad elevations.

This alternative plan would preserve the majority of eucalyptus trees located on the City portion of the site by locating the trees within a park, similar to the original project. Only those trees on the City parcel that have been designated within the Arborist Report as requiring removal would be removed. The rationale for removing dead or dying trees is provided within the Arborist reports, dated September 29, 1996 and September 1998, respectively. The report prepared for the grove is located in Appendix G of the Draft EIR and Appendix B of this document, and the report prepared for the grove located in the County Parcel is located in Appendix B in this document). Mitigation Measure 3 under Aesthetics would still apply to this alternative to reduce impacts related to the removal of any dead or dying trees onsite to a level less than significant. As stated above, this alternative (9-lot County) with Projected Floodplain Elevation (updated FEMA with Applicant's LOMR) proposes complete avoidance of all the eucalyptus trees located within the County portion of the site, unlike the original project. Additionally, the alternative provides a 464-foot buffer from the closest residential unit to the 0.13 acre on-site ESHA. The original project impacts related to the removal of eucalyptus trees and the onsite ESHA are eliminated with ~~by~~ this alternative.

The alternative plan may result in impacts to County-proposed trails, similar to the original project. There are existing and proposed 8-foot wide County trails to the south and west of the project site. The project also proposes 8-foot wide trails within the site. Exhibit 57, under Alternative 7, depicts the proposed trail and bike path plan for the 171 unit alternative plan. Mitigation Measure 4 under Aesthetics would still apply to this alternative to reduce impacts to County-proposed trails to a level less than significant.

This alternative will reduce the amount of light and glare in the vicinity of the County parcel compared with the original project due to the fact that the amount of development is reduced (i.e., 9 units versus 27 units). However, compared with existing conditions the Reduced Density Alternative (9-lot County) with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR) will incrementally increase the amount of light and glare in the vicinity of the project site and may impact the Bolsa Chica Preserve area south of the site, similar to but less than the original project. Mitigation Measures 1 through 3 under Light and Glare would still apply to this alternative.

Overall, this alternative will result in less than significant aesthetic impacts after mitigation, similar to the original project.

Transportation/Circulation

This alternative would contribute to short-term construction related impacts due to the addition of truck and construction vehicle traffic. The short-term impacts would be the same as the original project due to insignificant differences in the amount of dirt hauled (i.e., import) between this alternative and the original project (refer to Table BB). The same assumptions as in the original project (i.e., worst~~e~~ case scenario - using one entrance/exit off of Graham Street) have been used in assessing the short-term daily trips for grading operations, therefore, the number of truck trips hauling dirt daily and the duration of the grading operation would remain approximately the same (6 months) as in the Draft EIR (please refer to Earth Resources). Mitigation Measures 1 regarding short-term impacts would still apply to this alternative. Short-term transportation/circulation impacts will be less than significant after mitigation.

This alternative would also result in vehicular increases on the surrounding street system, as in the original project. Traffic improvements proposed for the project area still would be implemented with the alternative plan, as they also would be necessary with this alternative. However, due to the fact that this alternative proposes the development of ~~37~~ ***35*** fewer units than the original project, this plan would generate lower project traffic volumes than the original project. Long-term impacts associated with transportation/circulation would be less than the original project. As described in the Draft EIR, the original project would result in approximately 2,496 Average Daily Trips (ADT). Based on the proposed 171 dwelling units, this alternative would result in 2,052 ADT. This represents 444 fewer trips per day or a 18 percent reduction in ADT. Additionally, this scenario presents a total of 164 trips during the morning peak hour trips and 205 trips during the evening peak hour, compared to 200 and 250 morning and evening peak hours for the original project. Although there would be a reduction in ADT with this alternative plan, Mitigation Measures 2 through 4, regarding potential impacts to pedestrian, bicycle, and vehicular safety related to the establishment of access and an onsite circulation system and Mitigation Measure 5 regarding potential level of service deficiencies at the intersections of Bolsa Chica Street and Warner Avenue and Graham Street and Warner Avenue under the 2020 condition would still apply.

Air Quality

Impacts from the alternative plan associated with short-term air quality would be the same as the original project, due to only a small increase in the amount of dirt hauled (i.e., import) and an identical duration of grading operation (i.e., 6 months) between this alternative and the original project (please refer to Earth Resources). Any small increased grading activity emissions would be offset by the construction of ~~37~~ ***35*** fewer homes which would result in less construction activity air quality impacts (i.e., emissions from construction equipment, haul vehicles and fugitive dust) than those generated by the original project. The combination of slightly increased fill impact but fewer units built will create peak activity day unmitigated NO_X emissions in excess of SCAQMD thresholds that are very similar to the original project (58 percent "excess" for the original project versus 63 percent for this alternative) (refer to Appendix E, Supplemental Air Quality Data). Mitigation Measures 1 through 6 in the Draft EIR regarding short-term impacts during construction activities would still be applicable to this alternative. Application of

these Mitigation Measures would reduce short-term construction activity impacts to a level that is less than significant.

This alternative would result in fewer long-term mobile source emissions than the original project, due to the reduced ADT from ~~37~~ *35* less units. Estimation of mobile source emissions is based on ADT; therefore, since the plan alternative is estimated to result in an 18 percent reduction in ADT (as described above), it is assumed that the plan alternative would result in proportionately less mobile source emissions (i.e., 18 percent). Mitigation Measures 7 and 8 identified in the Draft EIR to reduce impacts related to long-term impacts would still apply to this alternative, thereby reducing the alternative's long-term and incremental contribution to this impact to a level less than significant.

Noise

This alternative would result in the same short-term impacts compared to the original project during construction activities due to the insignificant increase in the amount of dirt hauled (i.e., import) and the fact that duration of the grading operation would remain approximately the same (i.e., 6 months) as in the original project. Standard City policies and Mitigation Measures 1 and 2 from the Draft EIR would still apply to this alternative. Short-term noise impacts will be less than significant after mitigation.

Long-term noise impacts due to the increase in traffic would be less than the original project due to less traffic being generated than the original project. Estimation of noise impacts due to increase in traffic is based on ADT; therefore, since the alternative plan is estimated to result in an 18 percent reduction in ADT (as described above), it is assumed that the plan alternative would result in proportionately less traffic-related noise impacts (i.e., 18 percent). Although the plan alternative would result in less traffic-related noise impacts, Mitigation Measure 3 identified to ensure new walls are constructed to achieve maximum noise reduction would still apply to this alternative.

Earth Resources

This alternative would result in similar impacts associated with liquefaction and soil settlement as the original project. The City would require that any proposed development implement remedial grading activities. There is an insignificant difference in the amount of dirt hauled (i.e., import) and the duration of grading operation (i.e., 6 months) between this alternative and the original project (please refer to Table BB, above, for cut, fill and import quantities). Similar impacts would be anticipated with buildout of the alternative plan, and Mitigation Measures 1 through 6 identified in the Draft EIR to reduce impacts would also apply to this alternative. Grading impacts will be less than significant after mitigation.

Drainage/Hydrology

This alternative would result in increased surface water runoff due to the covering of surface soils with impermeable structures and surfaces, less than that of the original project due to the construction of ~~37~~ *35* fewer homes and provision of 6 additional acres of open space/parkland. The development under this alternative also would require the storm drainage improvements as

proposed by the original project (please refer to Exhibit 58, under Alternative 6). Mitigation Measure 1 related to drainage, flooding and cumulative impacts, and Mitigation Measures 2 and 3 related to water quality and cumulative impacts in the Draft EIR identified to reduce impacts also would apply to this alternative.

This alternative's potential impacts related to flooding are discussed below. A majority of this discussion has been summarized from the January 30, 2001 study prepared by Exponent and contained in Appendix C of this document. Because the basis for flood analysis is the project's designation by FEMA LOMR and revised FIRM, the following discussion has been provided.

Exponent has investigated past studies and prepared a detailed Flood Insurance Study focused on the Parkside Estates property in order to determine an appropriate BFE for a CLOMR for the property. The Exponent transmittal documents for the proposed CLOMR are contained in Appendix C and are dated January 30, 2001.

FEMA requires a detailed Flood Insurance Study because the revised FIRM and LOMR issued by FEMA in June 2000, based on an approximate study, shows the flood hazard at the Shea Homes property as an unnumbered A-Zone without a BFE. Where FEMA has not provided detailed FIS, FEMA regulations state that the floodplain administrator must require a project proponent to prepare a detailed analysis.

The study's purpose was to evaluate the appropriate 100-year (1% annual chance) flood depth for the underlying floodplain in order to achieve adequate flood protection. Both riverine and combined riverine and coastal storm surge events were modeled.

This focused detailed Flood Insurance Study concludes that the 100-year (1% annual chance) water surface elevation (i.e., BFE) over the Shea Homes property is 1.76 ft (NGVD 29 [3]) for riverine flooding, and 1.88 ft (NGVD 29) for combined riverine and coastal storm surge flooding. These elevations correspond to a rounded BFE of 2 feet (NGVD 29). This BFE when converted to 1988 datum is 4.44 or a rounded figure of 4.5. This BFE is substantially less than the base flood elevations of 10.2 feet to 10.9 feet (NAVD 88) interpolated by the County from the WEST study used for FEMA's LOMR issued June 2000 FIRM (please refer to Exhibit 48). The reasons for this substantial difference are primarily because the focused detailed study prepared by Exponent uses 1) new detailed and accurate contour mapping, 2) a U.S. Army Corps of Engineers (CoE) levee breach analysis, 3) hydrology consistent with FEMA and CoE published discharges, 4) an unsteady flow model which accounts for flood storage and unsteady tidal control, and 5) proposed improvements with the Parkside Estates development. Please refer to Appendix C for a detailed discussion of the factors listed above.

The increase in flood water surface elevation to adjacent properties caused by the proposed development under this alternative is zero (0) foot for riverine flooding, and 0.12 foot for combined riverine and coastal storm surge flooding. The zero to negligible increase in water surface elevation from the project alternative is because drainage improvements (shown in Exhibit 58) to be made as conditions of development more than make up for displacement by fill

[3] All elevations in the focused detailed Flood Insurance Study prepared by Exponent for Shea Homes are based on mean sea level, (National Geodetic Vertical Datum of 1929 (NGVD 29)). The Shea Homes development elevations, in separate documents, are based on mean sea level, (North American Vertical Datum of 1988 (NAVD 88)). NGVD 29 elevations may be converted to NAVD 88 elevations by adding 2.44 feet to NGVD 29 elevations.

of storage volume on the project site and closure of the connection to Bolsa Chica lowlands draining the property to the west. The proposed storm drain improvements include additional gravity drainage from the property to the Slater Pump Station and additional pumping capacity at the station. These storm drain improvements are shown on Exhibit 58. Mitigation Measures 1 through 3 in the Draft EIR would apply to this alternative.

~~If the BFEs assumed for this alternative are correct,~~ ~~i~~*I*mpacts related to flooding under this alternative could potentially be greater than under the condition analyzed in the Draft EIR in the absence of the increased pad elevations. However, the proposed design of this alternative, including the higher pad elevations, storm drain improvements, addition of greater pumping capacity to the Slater Pump Station, and improvements to the East Garden Grove Wintersburg Flood Control Channel, will mitigate the impacts to a level of less than significant.

Biological Resources

This alternative would result in fewer impacts related to biological resources than the original project. Mitigation Measure 1, which ensures that no construction impacts affect the potential active nesting sites for native birds of prey would still apply. As described in the Draft EIR, the original project would result in the removal of an EPA delineated pocket wetland and a 0.2 acre pickleweed patch located on the County portion of the project site. Implementation of the proposed alternative would not result in removal of the EPA delineated wetland nor the 0.2-acre pickleweed patch; therefore, the portion of Mitigation Measure 2 under Biological Resources that is designed to mitigate for the loss of wetland would not be required. However, the latter portion of Mitigation Measure 2 still applies to the Reduced Density Alternative with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR), which requires "the preservation and enhancement of 2 acres of appropriate wildlife habitat per the Department of Fish and Game." This Reduced Density Alternative with Projected Base Floodplain Elevation (updated FEMA with Applicant's LOMR) provides 3.3 acres of open space in the County parcel. An on-site preservation and enhancement plan for 2 acres will be implemented under this alternative per Mitigation Measure 2 of the EIR. Overall, this alternative results in less impacts to biological resources.

Cultural Resources

This alternative would result in potential impacts to archaeological resources, similar to those of the original project. Subsequent to the release of the Draft EIR and in response to comments, Mr. Brian Dillon consulting archeologist, conducted an additional survey of the project site. A copy of this report date, February 14, 2000 is contained in Appendix D of this document. The Tentative Tract Maps contained in the Draft EIR were revised to ensure no remedial grading impacts would occur to ORA 83 as a result of project implementation. Please refer to Section 3.0 of this document. The result of the study, prepared by Brian Dillon, states that the revision of the TTM's and redesign of the site result in mitigation of potential adverse impacts to the CA-ORA-83/86 archaeological site by avoidance of the site. The previous Tentative Tract Map in the Draft EIR included a potential overlap of roads, lots, etc. onto the easternmost fringe of archaeological site CA-ORA-83/86. The revised 171 unit TTM for this alternative includes relocation of roads, lots, etc. away from the archaeological site in an easterly direction, resulting in complete avoidance of the archaeological site. Mitigation Measures 1 through 3 identified in the Draft EIR Cultural Resources would apply to this alternative.